

Conducted test results

No.1-7077/23-01-03_TR1-A201-R1

February 01, 2024

Test Standard(s) FCC 15.247 - NI
 FCC 15.247, ISED RSS247 - NI

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Authorized

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Radio Labs

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| FCC 15.247 # TX spurious conducted 20dBc ~ BT LE 2 Msps | 113 |

FCC 15.247 # Bandwidth 6dB DTS ~ BT LE 2 Msps

References

| | |
|-----------------------------------|---|
| TC start | 26.01.2024 21:34:14 |
| Ambit temp [°C] humidity [rel%] | 26.6 35 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247 NI |
| Method | |
| Description | FCC 15.247 Bandwidth 6dB DTS - BT LE 2 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|-------------------------|
| Technology to test | BT LE 2 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | False Freq [MHz] 2404 |
| Frequency mid to test | False Freq [MHz] 2440 |
| Frequency high to test | True Freq [MHz] 2478 |
| Auto control enabled power supply Climatic Box | No No |
| Additional path loss [dB] | 0.7 |
| Full path type | EUT_SA_GEN_SIG |

Test Parameter

| | |
|----------------|--|
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

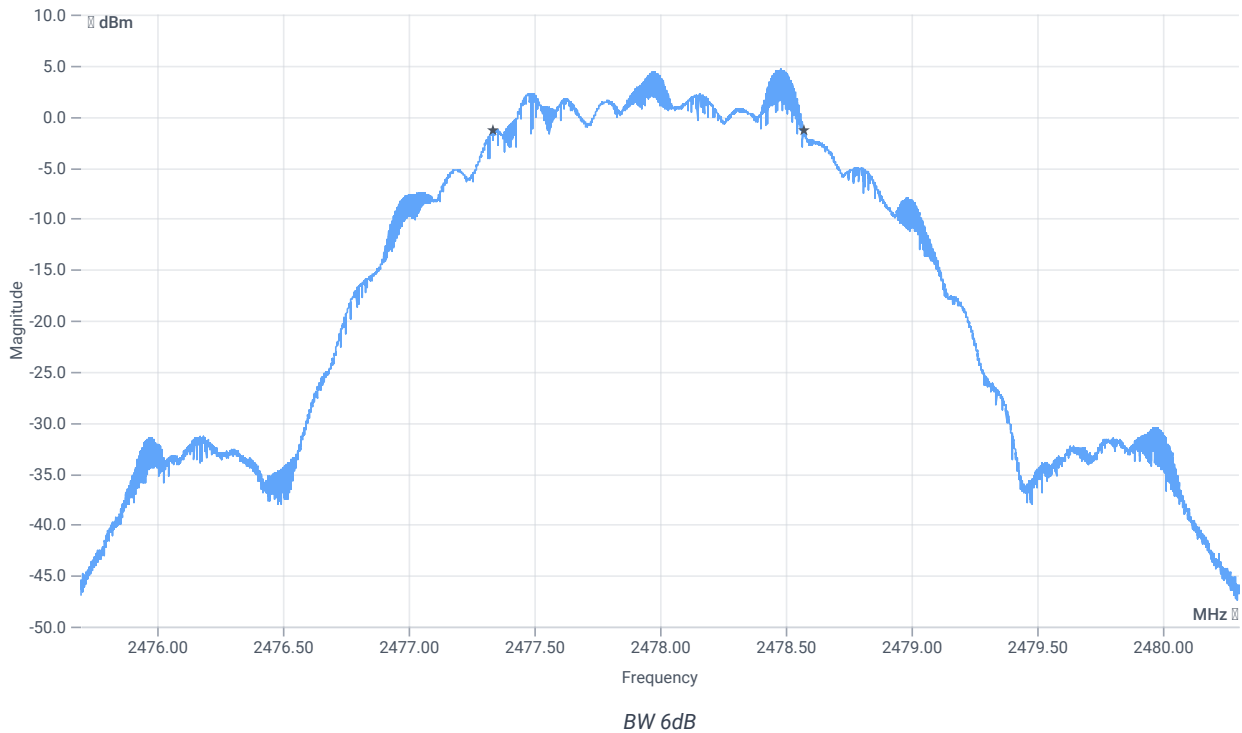
Test at TX 2478 MHz

RESULT: Reference power cond.

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 5.73 | dBm | INFO |
| Ref. frequency | -- | -- | 2478.500 | MHz | INFO |

READ SA SETTINGS:

| | |
|--|------------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 10.73 9.09 20 |
| Start [MHz] Stop [MHz] | 2475.700 2480.300 |
| RBW [MHz] VBW [MHz] | 0.100000 0.300000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 50 200 10001 SWE |



RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|---------------------|-------------|-------------|----------|------|---------|
| DTS bandwidth (6dB) | 500 | -- | 1231 | kHz | PASS |

Verdict

PASS

FCC 15.247 # Bandwidth 6dB DTS ~ BT LE 2 Msps

References

| | |
|-----------------------------------|---|
| TC start | 26.01.2024 21:15:09 |
| Ambit temp [°C] humidity [rel%] | 26.5 34 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247 NI |
| Method | |
| Description | FCC 15.247 Bandwidth 6dB DTS - BT LE 2 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|-------------------------|
| Technology to test | BT LE 2 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | False Freq [MHz] 2404 |
| Frequency mid to test | True Freq [MHz] 2440 |
| Frequency high to test | False Freq [MHz] 2478 |
| Auto control enabled power supply Climatic Box | No No |
| Additional path loss [dB] | 0.7 |
| Full path type | EUT_SA_GEN_SIG |

Test Parameter

| | |
|----------------|--|
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

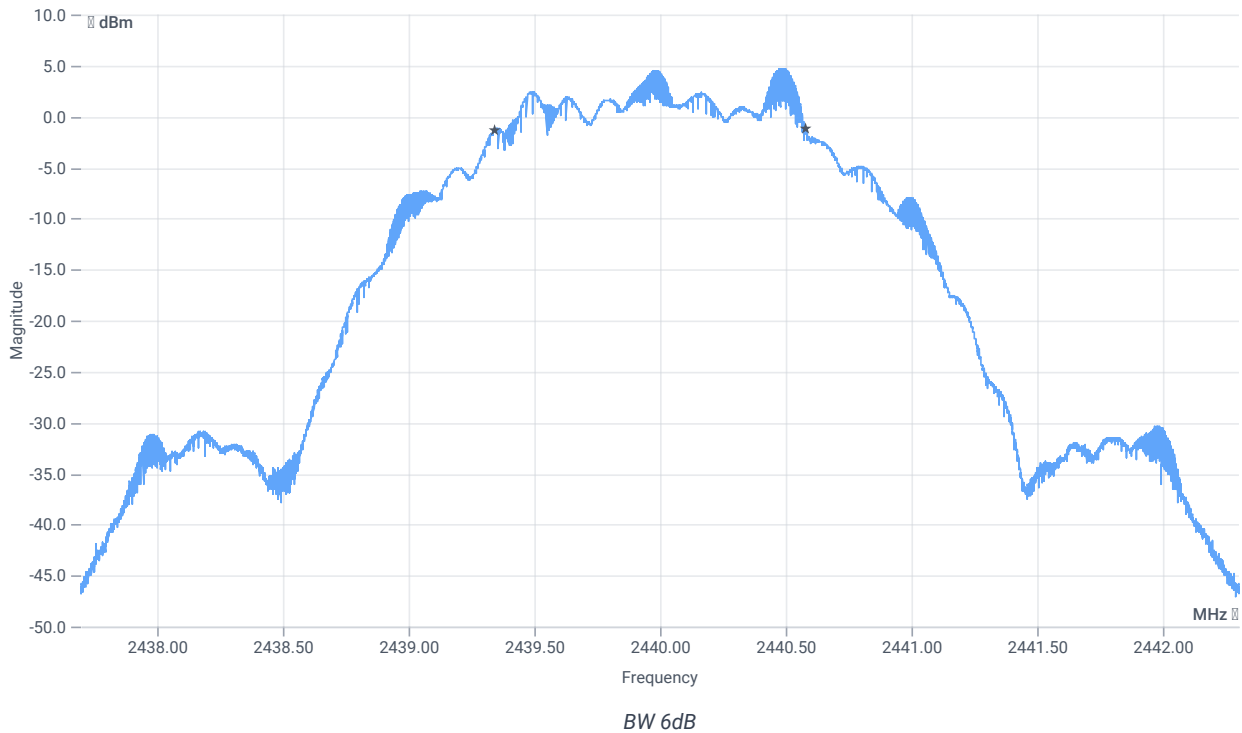
Test at TX 2440 MHz

RESULT: Reference power cond.

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 5.86 | dBm | INFO |
| Ref. frequency | -- | -- | 2440.500 | MHz | INFO |

READ SA SETTINGS:

| | |
|--|------------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 10.86 9 20 |
| Start [MHz] Stop [MHz] | 2437.700 2442.300 |
| RBW [MHz] VBW [MHz] | 0.100000 0.300000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 50 200 10001 SWE |



RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|---------------------|-------------|-------------|----------|------|---------|
| DTS bandwidth (6dB) | 500 | -- | 1232 | kHz | PASS |

Verdict

PASS

FCC 15.247 # Bandwidth 6dB DTS ~ BT LE 2 Msps

References

| | |
|-----------------------------------|---|
| TC start | 26.01.2024 20:57:01 |
| Ambit temp [°C] humidity [rel%] | 26.6 35 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247 NI |
| Method | |
| Description | FCC 15.247 Bandwidth 6dB DTS - BT LE 2 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|-------------------------|
| Technology to test | BT LE 2 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | True Freq [MHz] 2404 |
| Frequency mid to test | False Freq [MHz] 2440 |
| Frequency high to test | False Freq [MHz] 2478 |
| Auto control enabled power supply Climatic Box | No No |
| Additional path loss [dB] | 0.7 |
| Full path type | EUT_SA_GEN_SIG |

Test Parameter

| | |
|----------------|--|
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

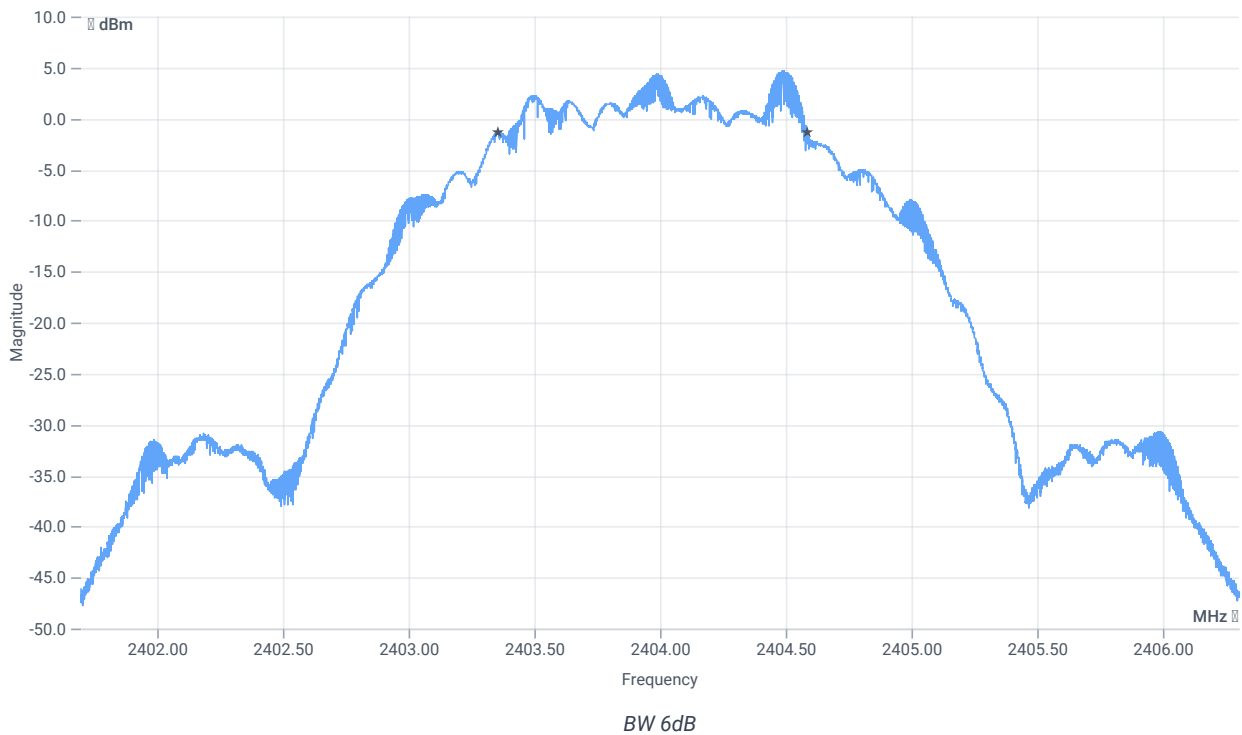
Test at TX 2404 MHz

RESULT: Reference power cond.

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 5.74 | dBm | INFO |
| Ref. frequency | -- | -- | 2404.500 | MHz | INFO |

READ SA SETTINGS:

| | |
|--|------------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 10.74 8.96 20 |
| Start [MHz] Stop [MHz] | 2401.700 2406.300 |
| RBW [MHz] VBW [MHz] | 0.100000 0.300000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 50 200 10001 SWE |



RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|---------------------|-------------|-------------|----------|------|---------|
| DTS bandwidth (6dB) | 500 | -- | 1230 | kHz | PASS |

Verdict

PASS

FCC 15.247 # Bandwidth 6dB DTS ~ BT LE 1 Msps

References

| | |
|-----------------------------------|---|
| TC start | 26.01.2024 20:37:03 |
| Ambit temp [°C] humidity [rel%] | 26.7 35 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247 NI |
| Method | |
| Description | FCC 15.247 Bandwidth 6dB DTS - BT LE 1 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|-------------------------|
| Technology to test | BT LE 1 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | False Freq [MHz] 2402 |
| Frequency mid to test | False Freq [MHz] 2440 |
| Frequency high to test | True Freq [MHz] 2480 |
| Auto control enabled power supply Climatic Box | No No |
| Additional path loss [dB] | 0.7 |
| Full path type | EUT_SA_GEN_SIG |

Test Parameter

| | |
|----------------|--|
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

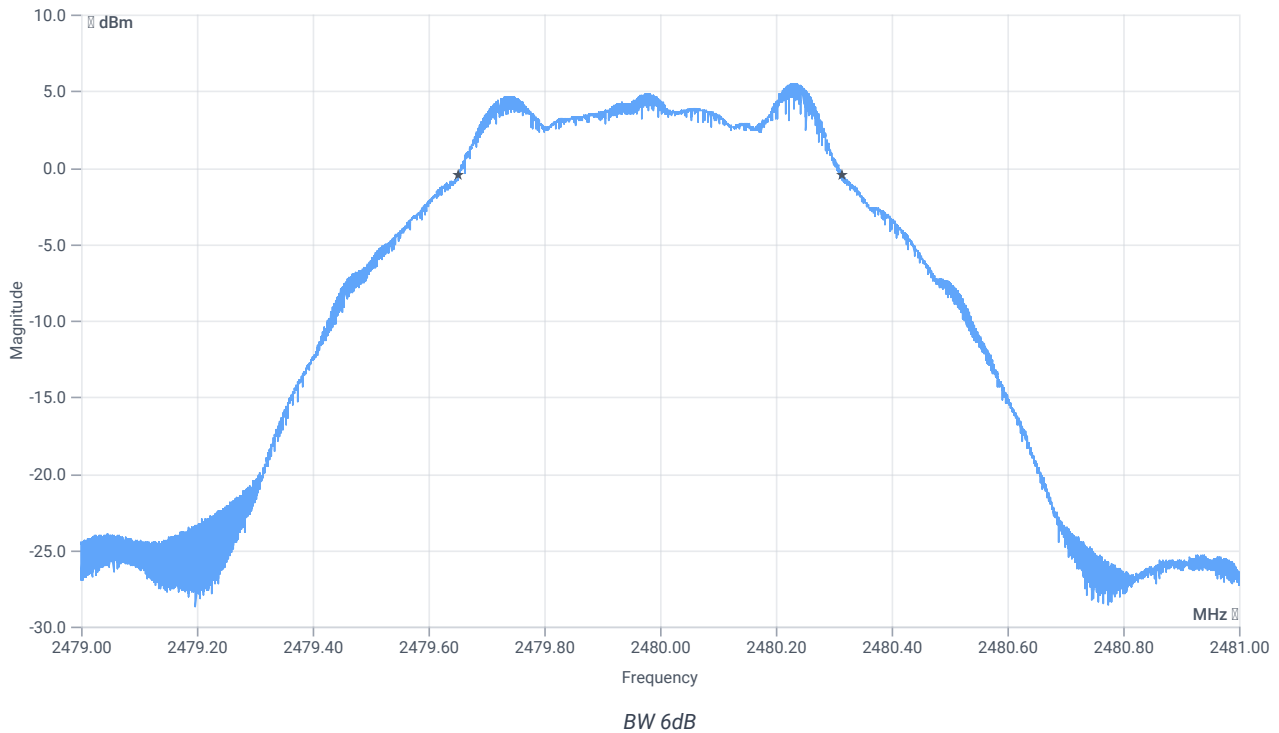
Test at TX 2480 MHz

RESULT: Reference power cond.

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 5.54 | dBm | INFO |
| Ref. frequency | -- | -- | 2480.200 | MHz | INFO |

READ SA SETTINGS:

| | |
|--|------------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 10.54 9.1 20 |
| Start [MHz] Stop [MHz] | 2479.000 2481.000 |
| RBW [MHz] VBW [MHz] | 0.100000 0.300000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 50 200 10001 SWE |



RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|---------------------|-------------|-------------|----------|------|---------|
| DTS bandwidth (6dB) | 500 | -- | 665 | kHz | PASS |

Verdict

PASS

FCC 15.247 # Bandwidth 6dB DTS ~ BT LE 1 Msps

References

| | |
|-----------------------------------|---|
| TC start | 26.01.2024 20:17:44 |
| Ambit temp [°C] humidity [rel%] | 26.6 36 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247 NI |
| Method | |
| Description | FCC 15.247 Bandwidth 6dB DTS - BT LE 1 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|-------------------------|
| Technology to test | BT LE 1 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | False Freq [MHz] 2402 |
| Frequency mid to test | True Freq [MHz] 2440 |
| Frequency high to test | False Freq [MHz] 2480 |
| Auto control enabled power supply Climatic Box | No No |
| Additional path loss [dB] | 0.7 |
| Full path type | EUT_SA_GEN_SIG |

Test Parameter

| | |
|----------------|--|
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

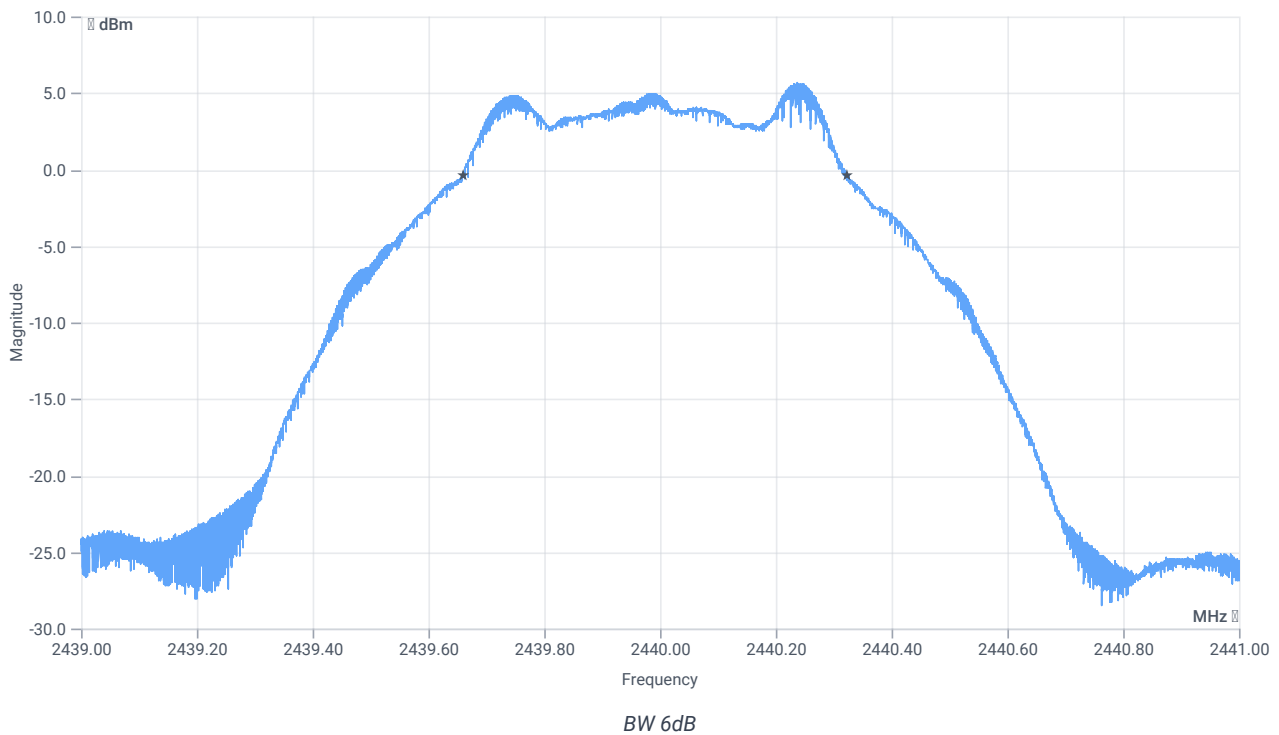
Test at TX 2440 MHz

RESULT: Reference power cond.

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 5.68 | dBm | INFO |
| Ref. frequency | -- | -- | 2440.200 | MHz | INFO |

READ SA SETTINGS:

| | |
|--|------------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 10.68 9 20 |
| Start [MHz] Stop [MHz] | 2439.000 2441.000 |
| RBW [MHz] VBW [MHz] | 0.100000 0.300000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 50 200 10001 SWE |



RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|---------------------|-------------|-------------|----------|------|---------|
| DTS bandwidth (6dB) | 500 | -- | 664 | kHz | PASS |

Verdict

PASS

FCC 15.247 # Bandwidth 6dB DTS ~ BT LE 1 Msps

References

| | |
|-----------------------------------|---|
| TC start | 26.01.2024 19:58:57 |
| Ambit temp [°C] humidity [rel%] | 26.7 35 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247 NI |
| Method | |
| Description | FCC 15.247 Bandwidth 6dB DTS - BT LE 1 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|-------------------------|
| Technology to test | BT LE 1 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | True Freq [MHz] 2402 |
| Frequency mid to test | False Freq [MHz] 2440 |
| Frequency high to test | False Freq [MHz] 2480 |
| Auto control enabled power supply Climatic Box | No No |
| Additional path loss [dB] | 0.7 |
| Full path type | EUT_SA_GEN_SIG |

Test Parameter

| | |
|----------------|--|
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

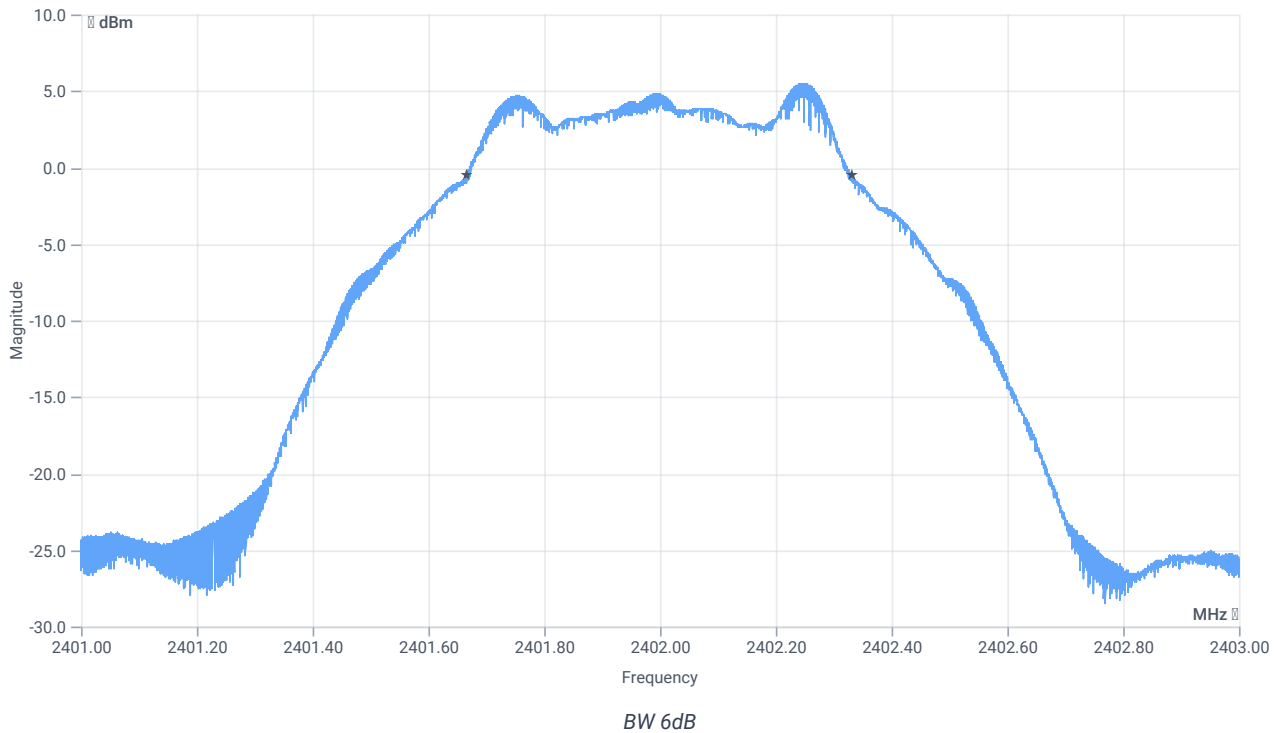
Test at TX 2402 MHz

RESULT: Reference power cond.

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 5.62 | dBm | INFO |
| Ref. frequency | -- | -- | 2402.200 | MHz | INFO |

READ SA SETTINGS:

| | |
|--|------------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 10.62 8.96 20 |
| Start [MHz] Stop [MHz] | 2401.000 2403.000 |
| RBW [MHz] VBW [MHz] | 0.100000 0.300000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 50 200 10001 SWE |



RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|---------------------|-------------|-------------|----------|------|---------|
| DTS bandwidth (6dB) | 500 | -- | 664 | kHz | PASS |

Verdict

PASS

FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ BT LE 2 Msps

References

| | |
|-----------------------------------|--|
| TC start | 26.01.2024 21:35:37 |
| Ambit temp [°C] humidity [rel%] | 26.6 34 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247, ISED RSS247 NI |
| Method | |
| Description | FCC 15.247 Bandwidth 99PCT-20dB DTS - BT LE 2 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|-------------------------|
| Technology to test | BT LE 2 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | False Freq [MHz] 2404 |
| Frequency mid to test | False Freq [MHz] 2440 |
| Frequency high to test | True Freq [MHz] 2478 |
| Auto control enabled power supply Climatic Box | No No |
| Additional path loss [dB] | 0.7 |

Test Parameter

| | |
|----------------|--|
| Full path type | EUT_SA_GEN_SIG |
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

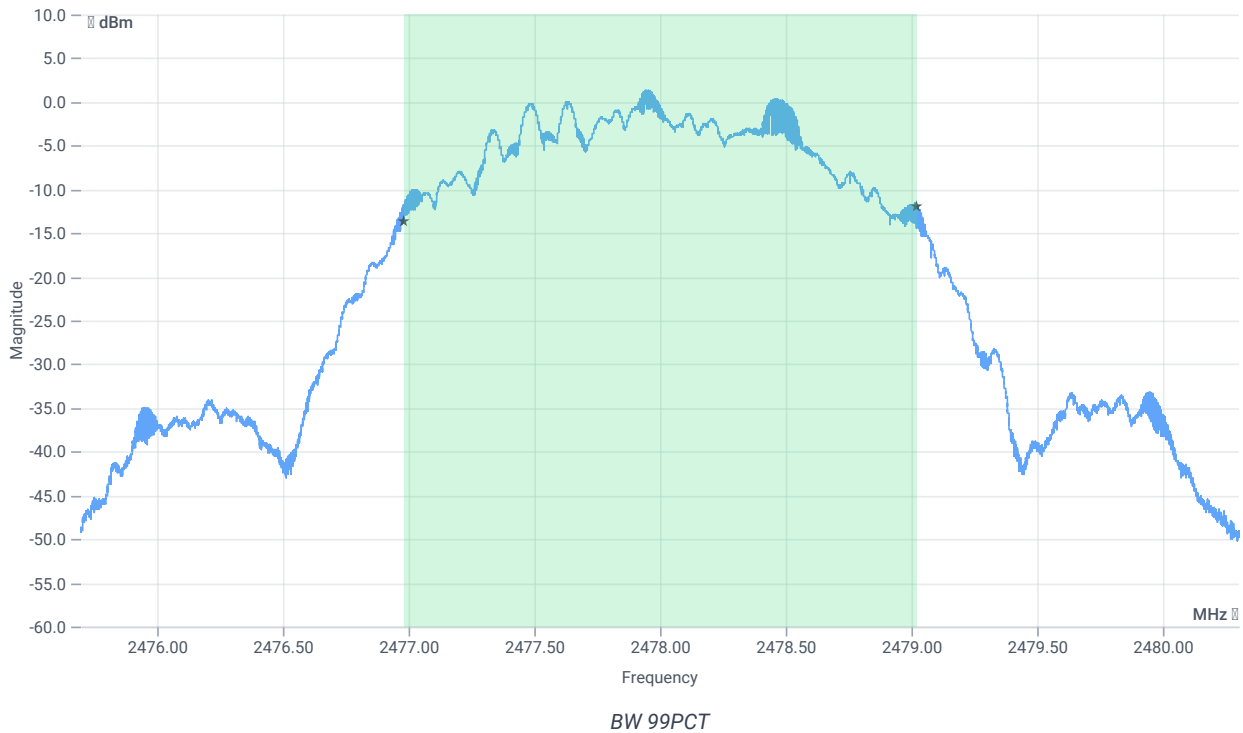
Test at TX 2478 MHz

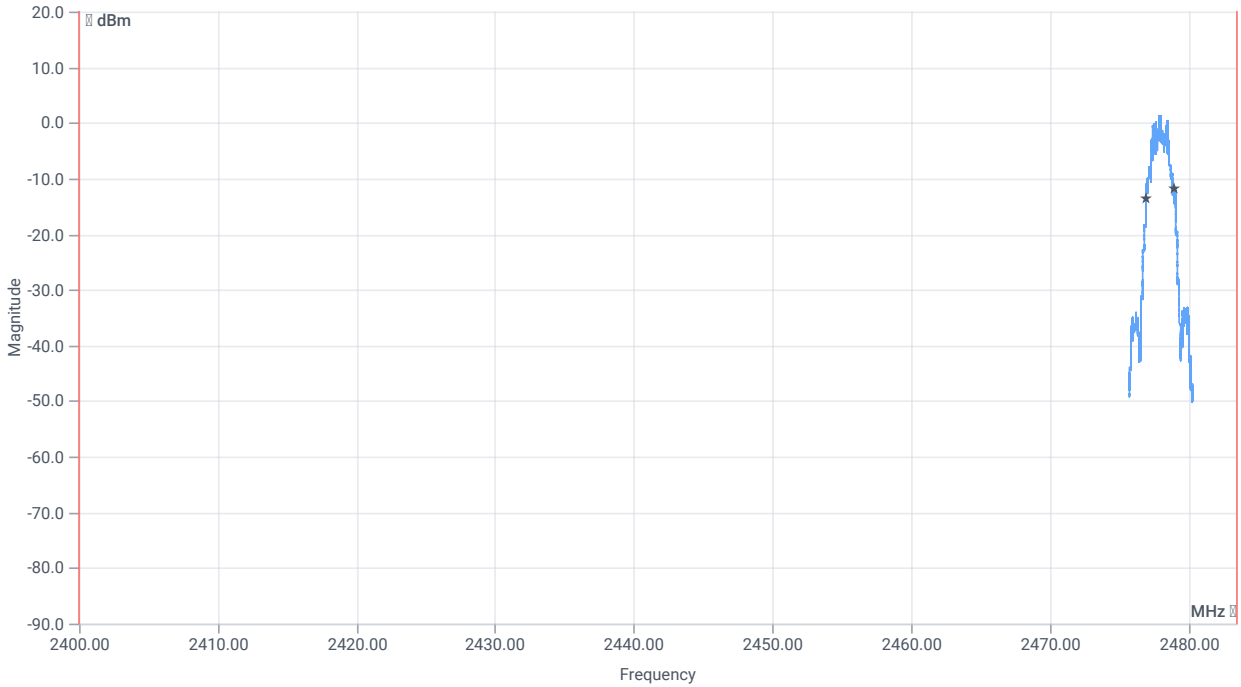
RESULT: Reference power cond.

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 5.69 | dBm | INFO |
| Ref. frequency | -- | -- | 2478.500 | MHz | INFO |

READ SA SETTINGS:

| | |
|--|------------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 10.69 9.09 20 |
| Start [MHz] Stop [MHz] | 2475.700 2480.300 |
| RBW [MHz] VBW [MHz] | 0.050000 0.200000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 50 200 10001 SWE |

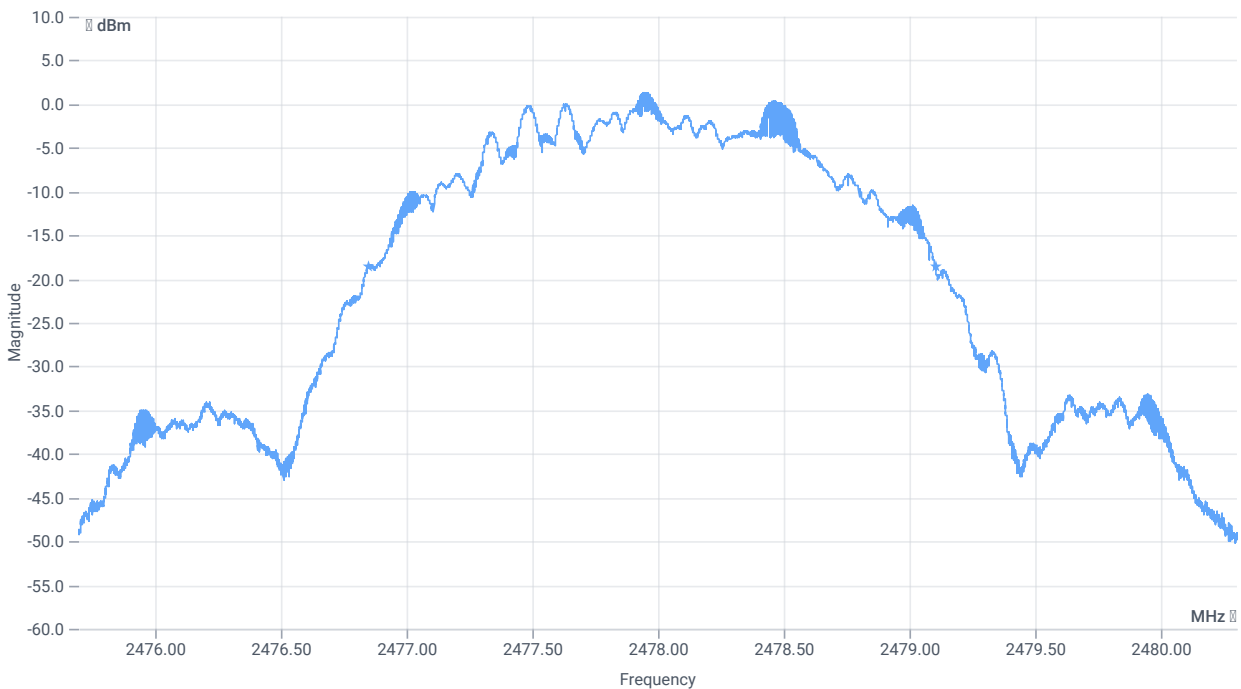




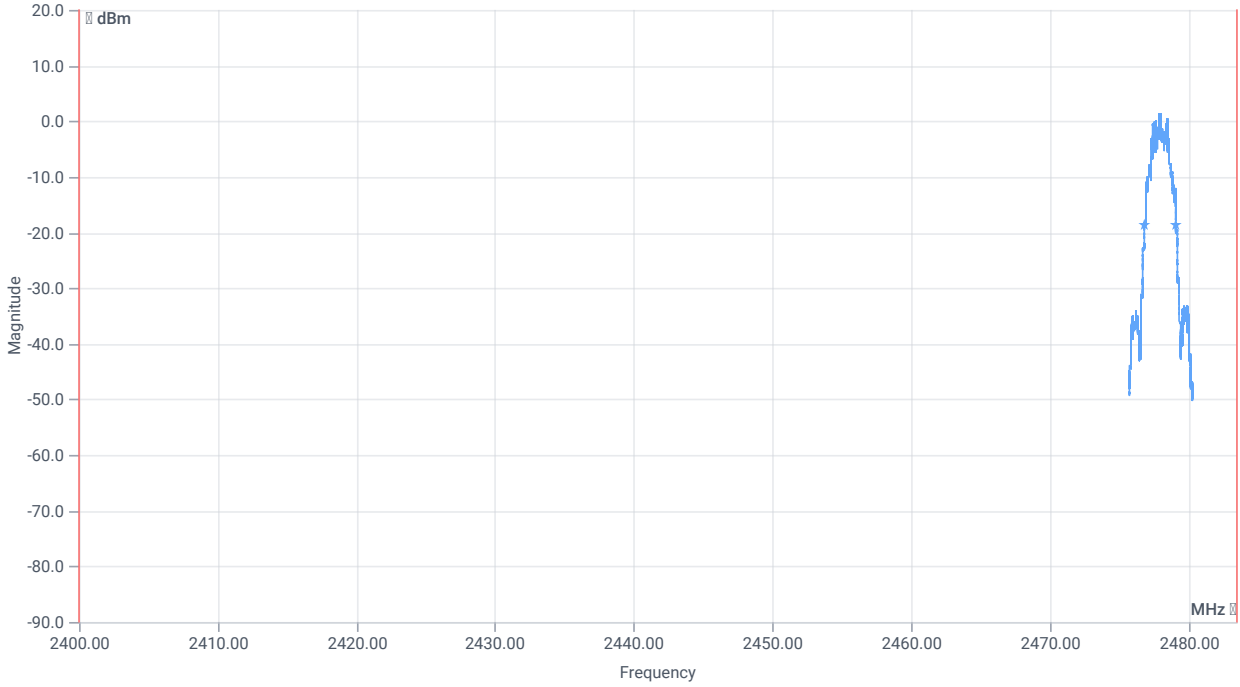
BW within Band 99PCT

RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|---------------|-------------|-------------|-----------|------|---------|
| Bandwidth 99% | -- | -- | 2038.000 | kHz | INFO |
| T1 99% | 2400.000000 | -- | 2476.9798 | MHz | PASS |
| T2 99% | -- | 2483.500000 | 2479.0174 | MHz | PASS |



BW 20dB



BW within band 20dB

RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|----------------|-------------|-------------|-----------|------|---------|
| Bandwidth 20dB | -- | -- | 2252 | kHz | INFO |
| T1 20dB | 2400.000000 | -- | 2476.8491 | MHz | PASS |
| T2 20dB | -- | 2483.500000 | 2479.1008 | MHz | PASS |

Verdict

PASS

FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ BT LE 2 Msps

References

| | |
|-----------------------------------|--|
| TC start | 26.01.2024 21:16:30 |
| Ambit temp [°C] humidity [rel%] | 26.6 35 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247, ISED RSS247 NI |
| Method | |
| Description | FCC 15.247 Bandwidth 99PCT-20dB DTS - BT LE 2 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|-------------------------|
| Technology to test | BT LE 2 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | False Freq [MHz] 2404 |
| Frequency mid to test | True Freq [MHz] 2440 |
| Frequency high to test | False Freq [MHz] 2478 |
| Auto control enabled power supply Climatic Box | No No |
| Additional path loss [dB] | 0.7 |

Test Parameter

| | |
|----------------|--|
| Full path type | EUT_SA_GEN_SIG |
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

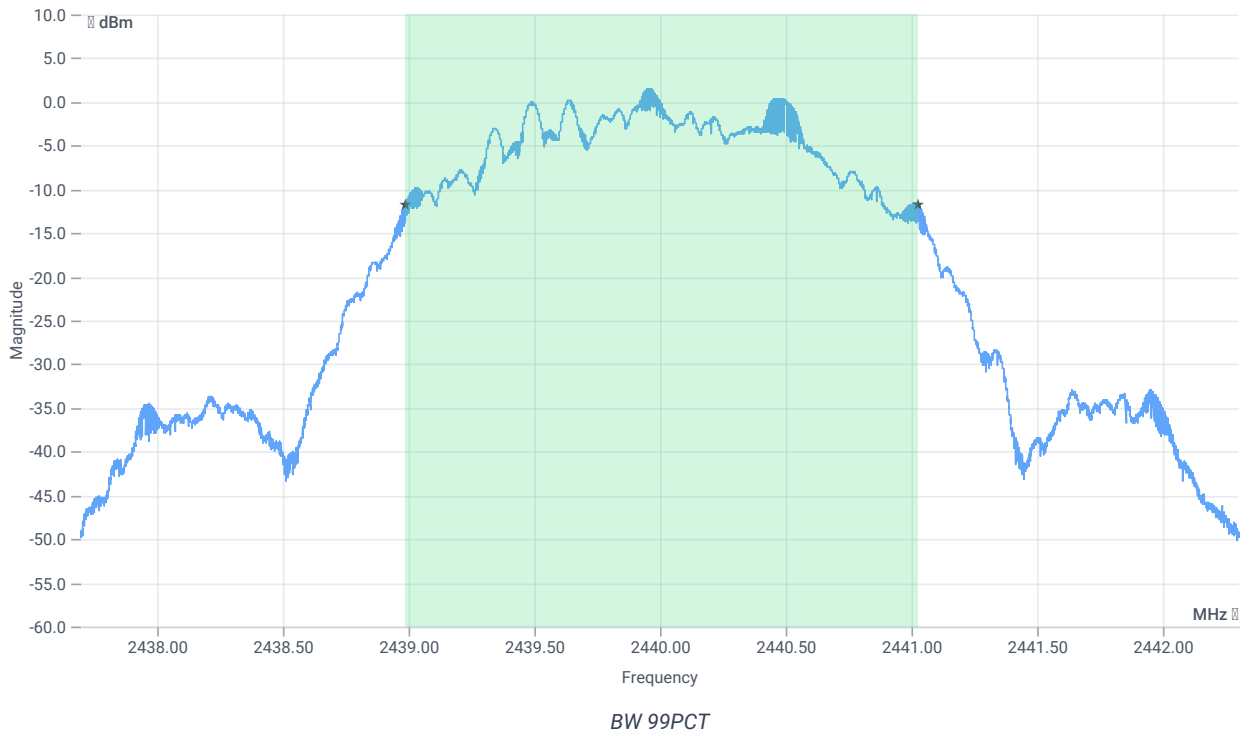
Test at TX 2440 MHz

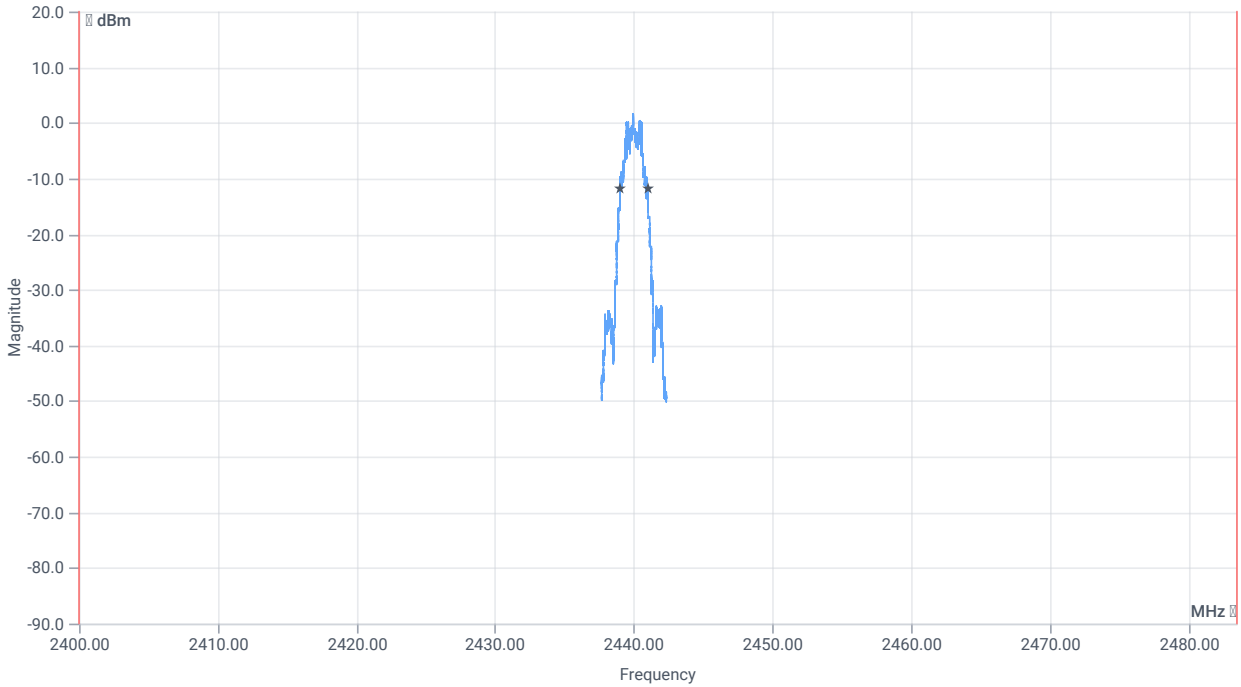
RESULT: Reference power cond.

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 5.97 | dBm | INFO |
| Ref. frequency | -- | -- | 2440.500 | MHz | INFO |

READ SA SETTINGS:

| | |
|--|------------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 10.97 9 20 |
| Start [MHz] Stop [MHz] | 2437.700 2442.300 |
| RBW [MHz] VBW [MHz] | 0.050000 0.200000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 50 200 10001 SWE |

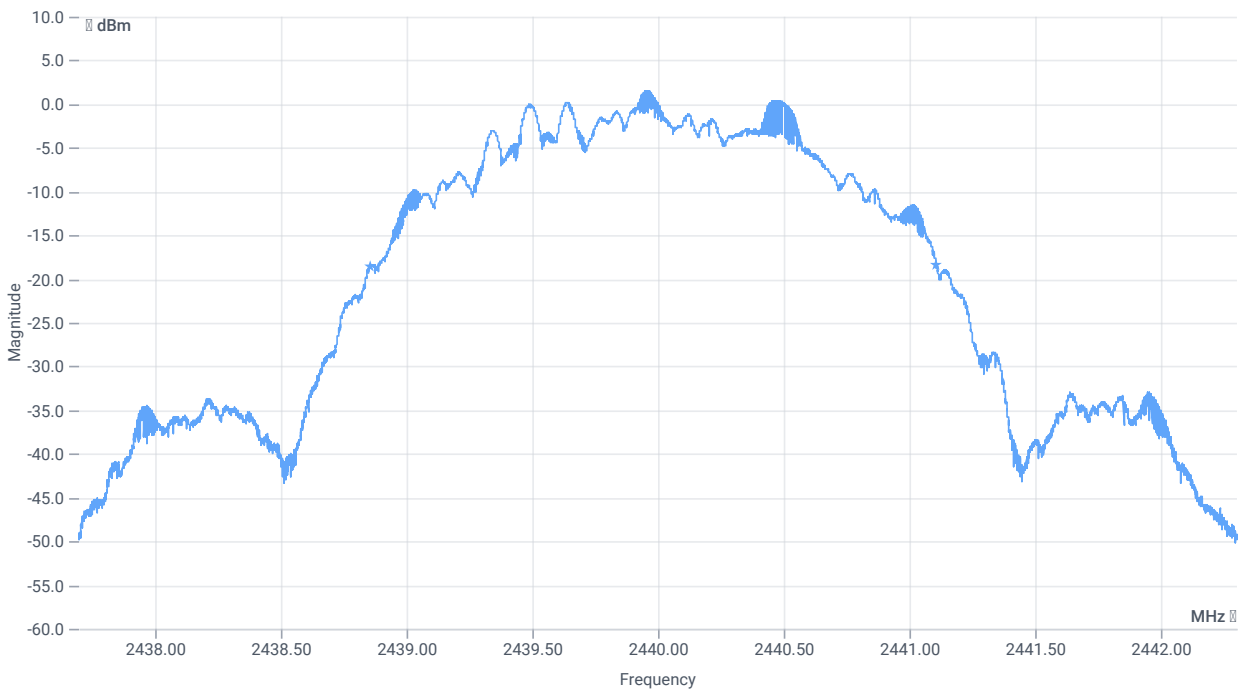




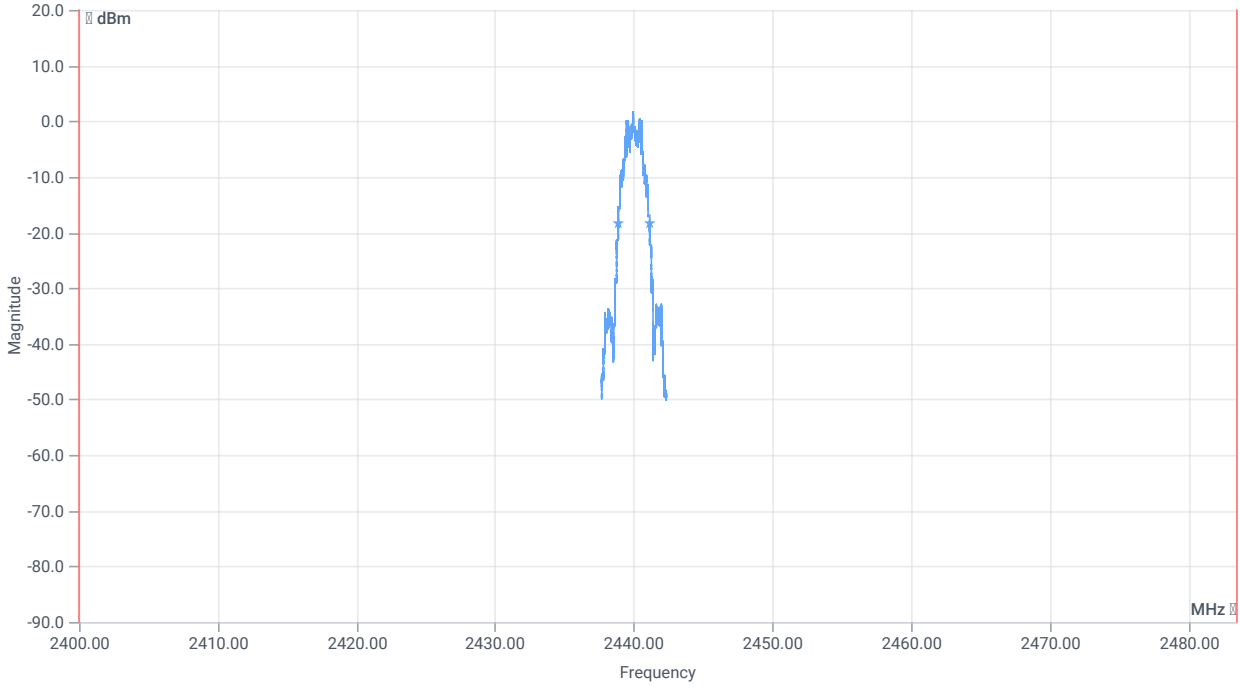
BW within Band 99PCT

RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|---------------|-------------|-------------|-----------|------|---------|
| Bandwidth 99% | -- | -- | 2036.000 | kHz | INFO |
| T1 99% | 2400.000000 | -- | 2438.9876 | MHz | PASS |
| T2 99% | -- | 2483.500000 | 2441.0234 | MHz | PASS |



BW 20dB



BW within band 20dB

RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|----------------|-------------|-------------|-----------|------|---------|
| Bandwidth 20dB | -- | -- | 2250 | kHz | INFO |
| T1 20dB | 2400.000000 | -- | 2438.8564 | MHz | PASS |
| T2 20dB | -- | 2483.500000 | 2441.1068 | MHz | PASS |

Verdict

PASS

FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ BT LE 2 Msps

References

| | |
|-----------------------------------|--|
| TC start | 26.01.2024 20:58:33 |
| Ambit temp [°C] humidity [rel%] | 26.6 35 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247, ISED RSS247 NI |
| Method | |
| Description | FCC 15.247 Bandwidth 99PCT-20dB DTS - BT LE 2 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|-------------------------|
| Technology to test | BT LE 2 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | True Freq [MHz] 2404 |
| Frequency mid to test | False Freq [MHz] 2440 |
| Frequency high to test | False Freq [MHz] 2478 |
| Auto control enabled power supply Climatic Box | No No |
| Additional path loss [dB] | 0.7 |

Test Parameter

| | |
|----------------|--|
| Full path type | EUT_SA_GEN_SIG |
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

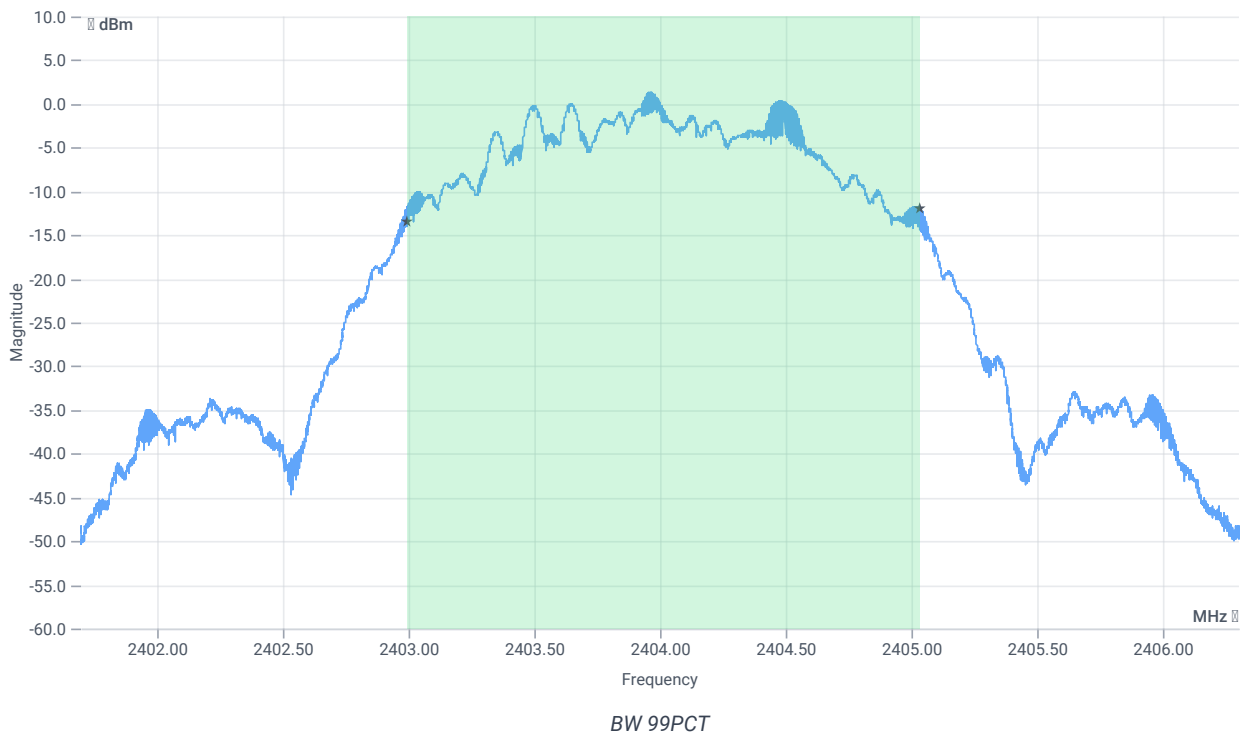
Test at TX 2404 MHz

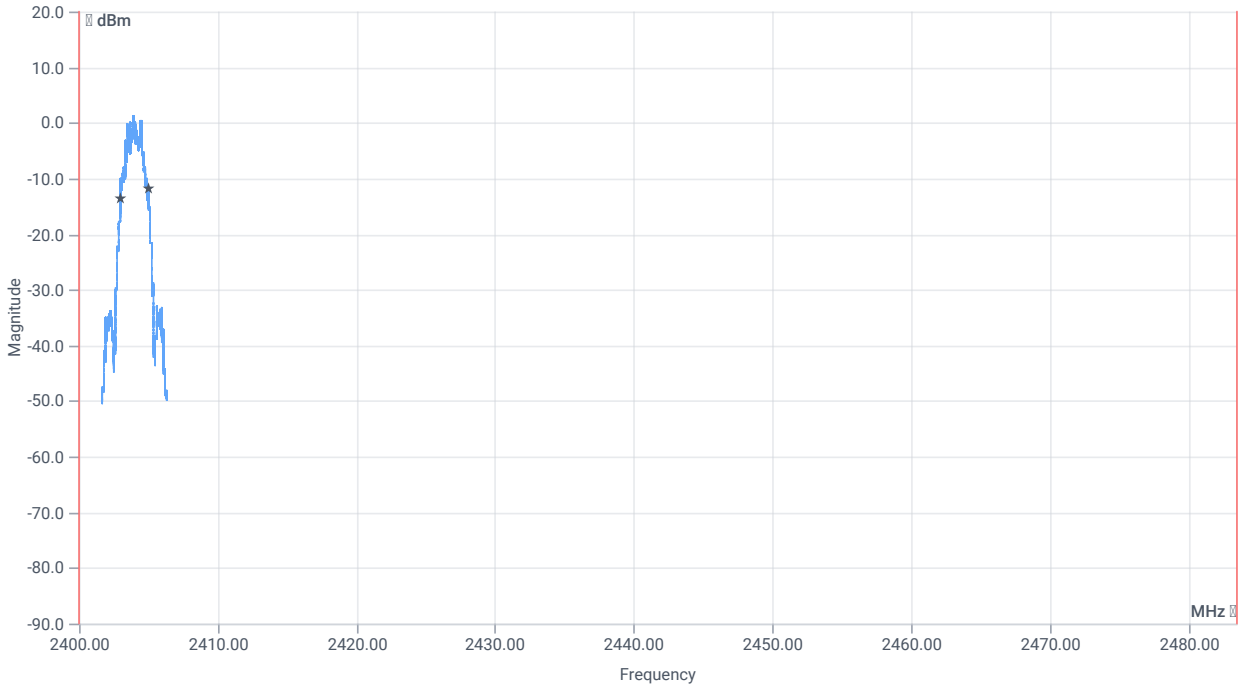
RESULT: Reference power cond.

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 5.79 | dBm | INFO |
| Ref. frequency | -- | -- | 2404.500 | MHz | INFO |

READ SA SETTINGS:

| | |
|--|------------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 10.79 8.96 20 |
| Start [MHz] Stop [MHz] | 2401.700 2406.300 |
| RBW [MHz] VBW [MHz] | 0.050000 0.200000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 50 200 10001 SWE |

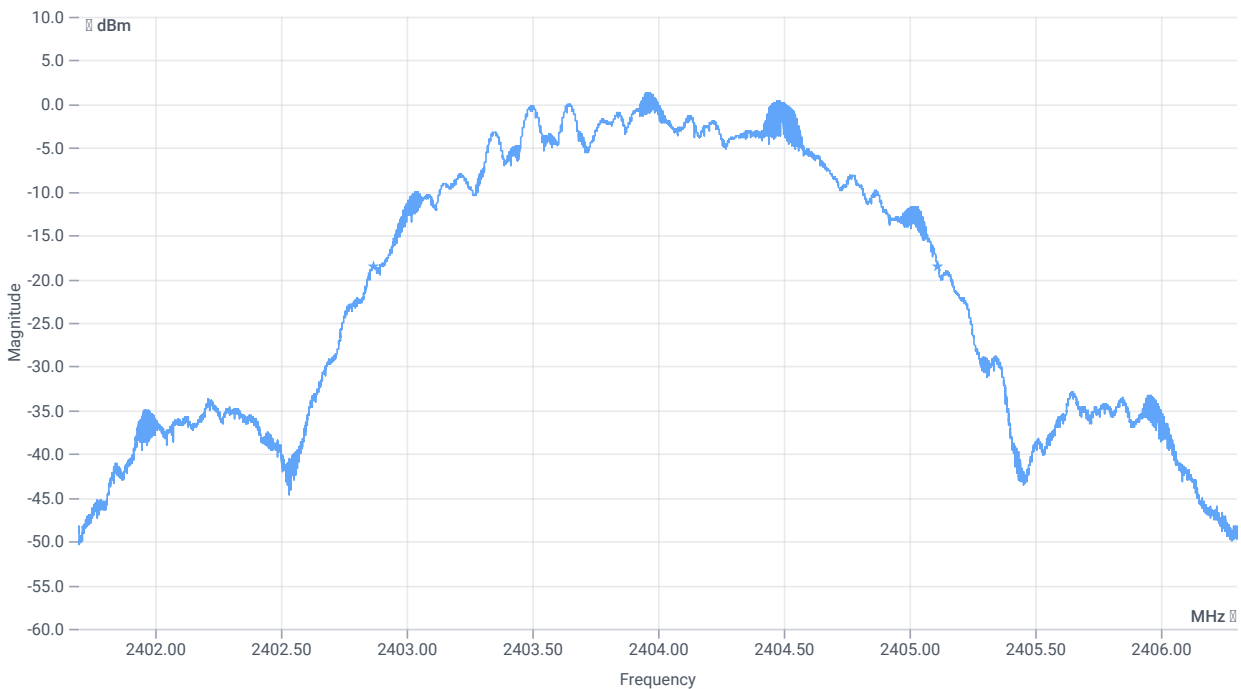




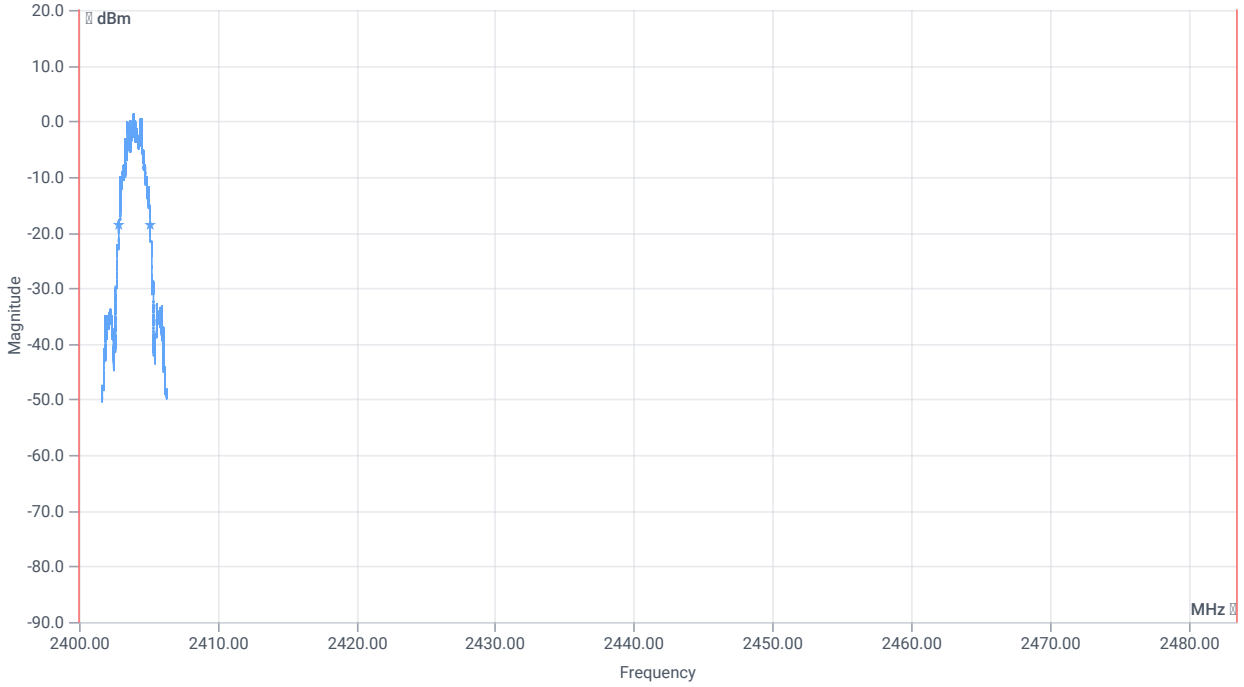
BW within Band 99PCT

RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|---------------|-------------|-------------|-----------|------|---------|
| Bandwidth 99% | -- | -- | 2034.000 | kHz | INFO |
| T1 99% | 2400.000000 | -- | 2402.9945 | MHz | PASS |
| T2 99% | -- | 2483.500000 | 2405.0289 | MHz | PASS |



BW 20dB



BW within band 20dB

RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|----------------|-------------|-------------|-----------|------|---------|
| Bandwidth 20dB | -- | -- | 2246 | kHz | INFO |
| T1 20dB | 2400.000000 | -- | 2402.8666 | MHz | PASS |
| T2 20dB | -- | 2483.500000 | 2405.1123 | MHz | PASS |

Verdict

PASS

FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ BT LE 1 Msps

References

| | |
|-----------------------------------|--|
| TC start | 26.01.2024 20:38:46 |
| Ambit temp [°C] humidity [rel%] | 26.6 35 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247, ISED RSS247 NI |
| Method | |
| Description | FCC 15.247 Bandwidth 99PCT-20dB DTS - BT LE 1 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|-------------------------|
| Technology to test | BT LE 1 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | False Freq [MHz] 2402 |
| Frequency mid to test | False Freq [MHz] 2440 |
| Frequency high to test | True Freq [MHz] 2480 |
| Auto control enabled power supply Climatic Box | No No |
| Additional path loss [dB] | 0.7 |

Test Parameter

| | |
|----------------|--|
| Full path type | EUT_SA_GEN_SIG |
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

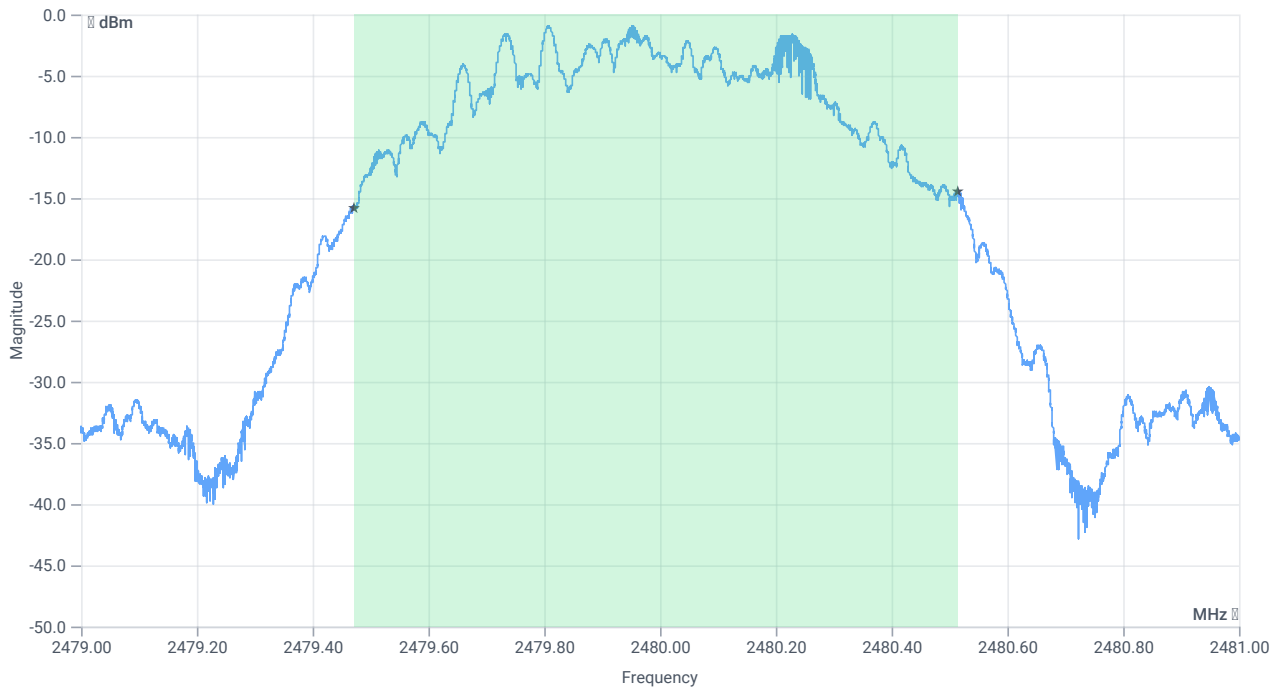
Test at TX 2480 MHz

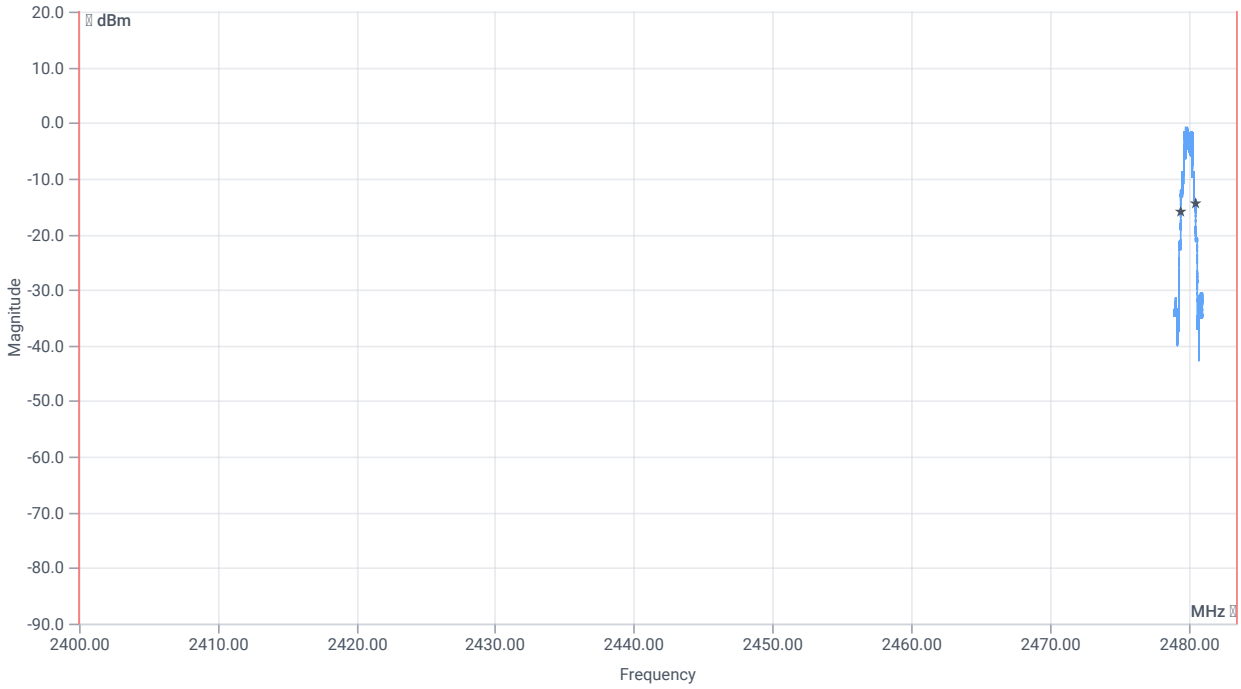
RESULT: Reference power cond.

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 5.52 | dBm | INFO |
| Ref. frequency | -- | -- | 2480.200 | MHz | INFO |

READ SA SETTINGS:

| | |
|--|------------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 10.52 9.1 20 |
| Start [MHz] Stop [MHz] | 2479.000 2481.000 |
| RBW [MHz] VBW [MHz] | 0.020000 0.100000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 50 200 10001 SWE |

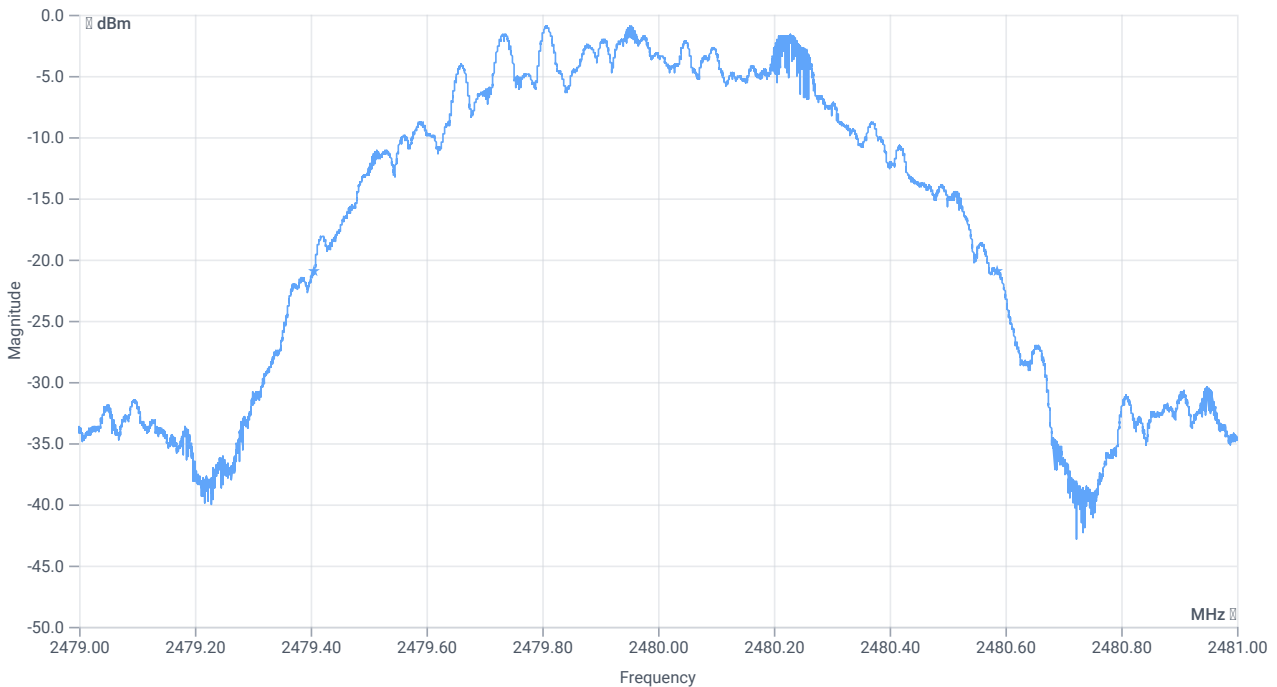




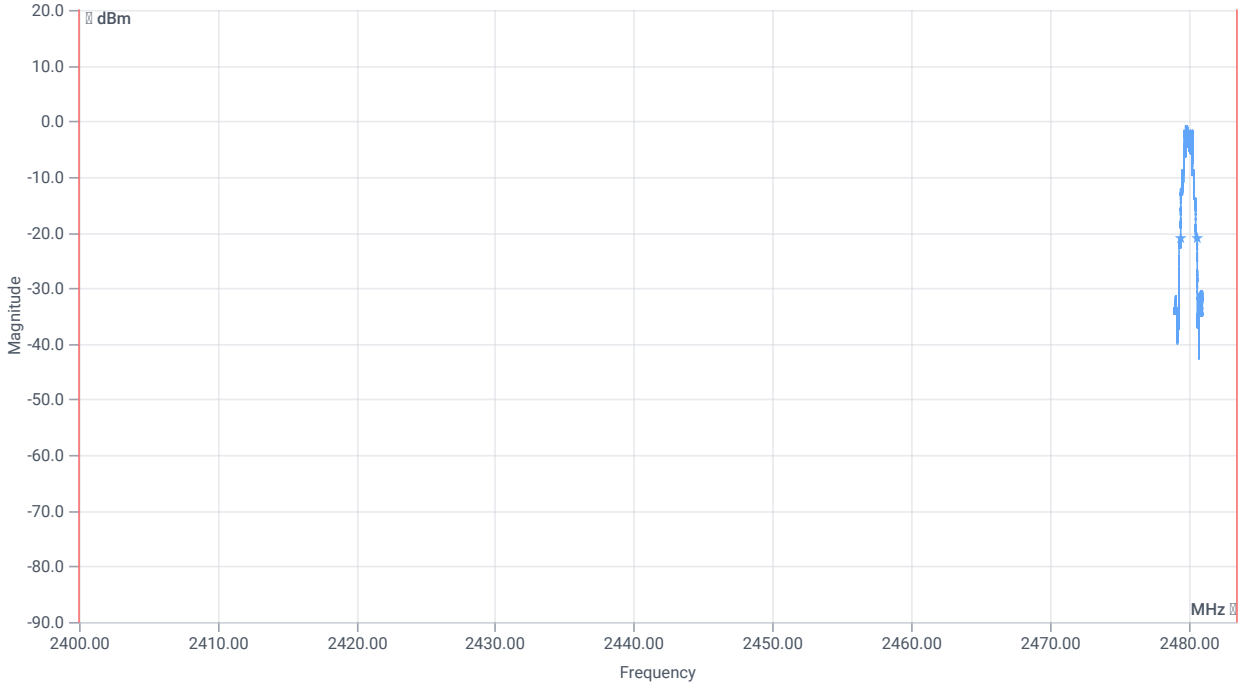
BW within Band 99PCT

RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|---------------|-------------|-------------|-----------|------|---------|
| Bandwidth 99% | -- | -- | 1042.000 | kHz | INFO |
| T1 99% | 2400.000000 | -- | 2479.4711 | MHz | PASS |
| T2 99% | -- | 2483.500000 | 2480.5133 | MHz | PASS |



BW 20dB



BW within band 20dB

RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|----------------|-------------|-------------|-----------|------|---------|
| Bandwidth 20dB | -- | -- | 1179 | kHz | INFO |
| T1 20dB | 2400.000000 | -- | 2479.4066 | MHz | PASS |
| T2 20dB | -- | 2483.500000 | 2480.5852 | MHz | PASS |

Verdict

PASS

FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ BT LE 1 Msps

References

| | |
|-----------------------------------|--|
| TC start | 26.01.2024 20:19:02 |
| Ambit temp [°C] humidity [rel%] | 26.7 35 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247, ISED RSS247 NI |
| Method | |
| Description | FCC 15.247 Bandwidth 99PCT-20dB DTS - BT LE 1 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|-------------------------|
| Technology to test | BT LE 1 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | False Freq [MHz] 2402 |
| Frequency mid to test | True Freq [MHz] 2440 |
| Frequency high to test | False Freq [MHz] 2480 |
| Auto control enabled power supply Climatic Box | No No |
| Additional path loss [dB] | 0.7 |

Test Parameter

| | |
|----------------|--|
| Full path type | EUT_SA_GEN_SIG |
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

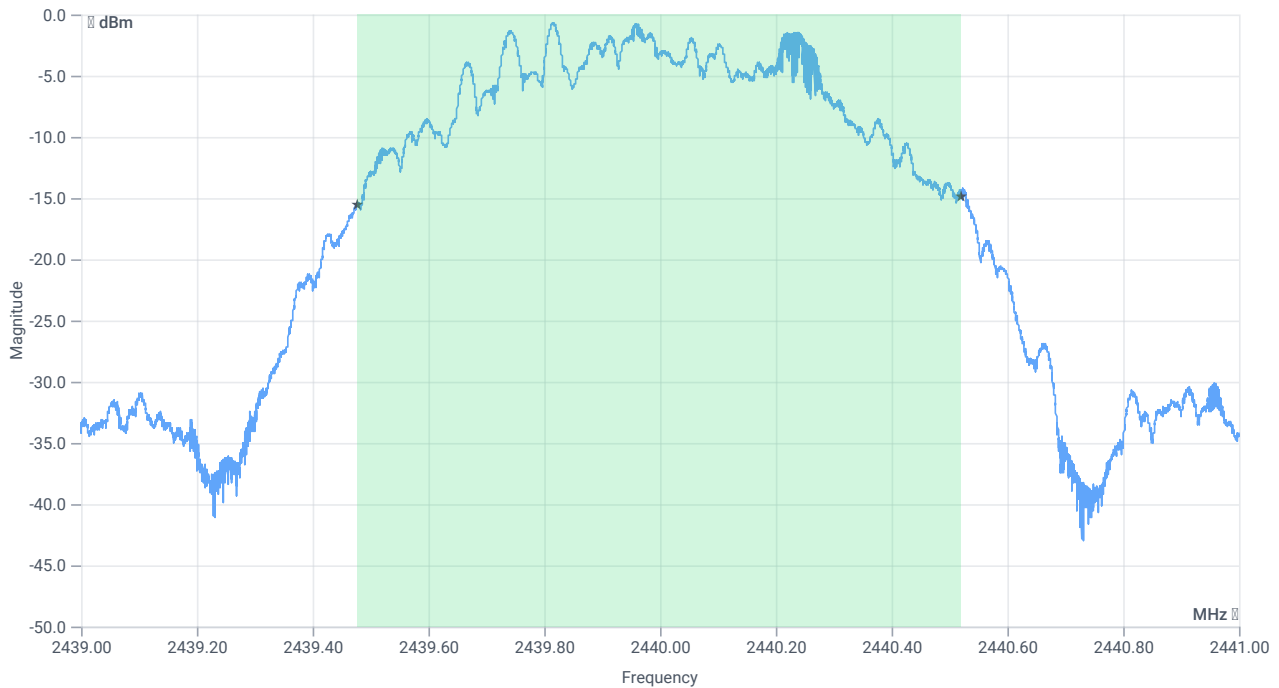
Test at TX 2440 MHz

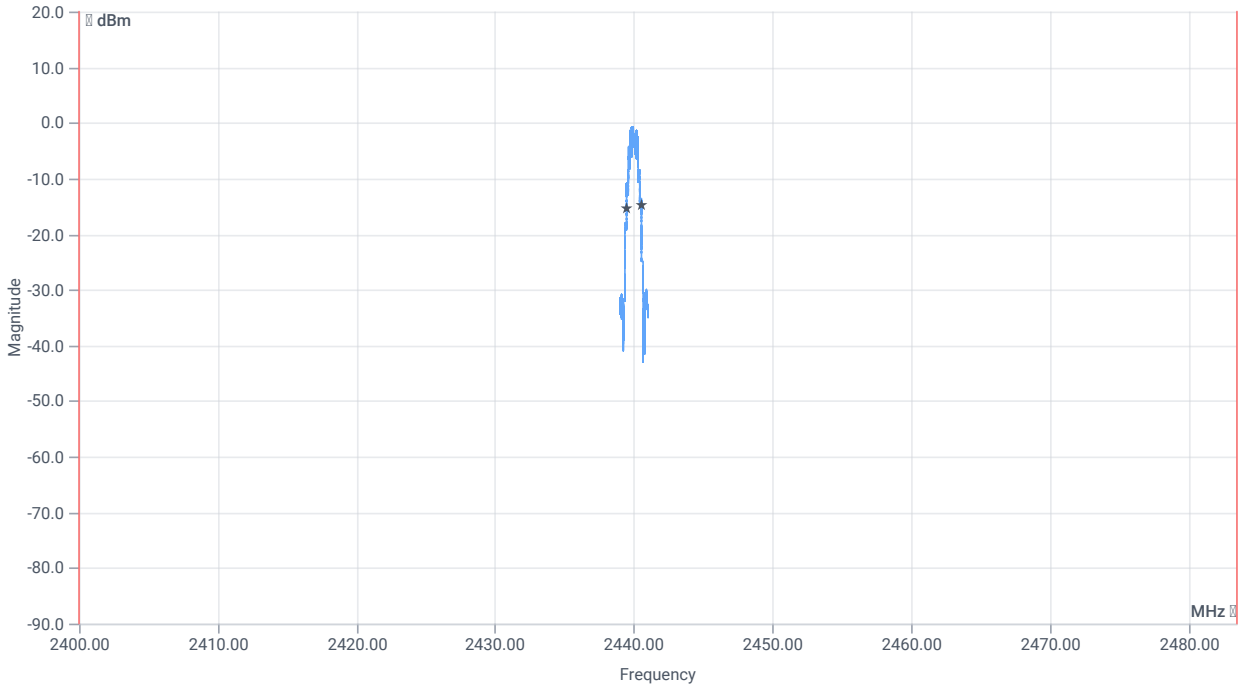
RESULT: Reference power cond.

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 5.69 | dBm | INFO |
| Ref. frequency | -- | -- | 2440.200 | MHz | INFO |

READ SA SETTINGS:

| | |
|--|------------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 10.69 9 20 |
| Start [MHz] Stop [MHz] | 2439.000 2441.000 |
| RBW [MHz] VBW [MHz] | 0.020000 0.100000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 50 200 10001 SWE |

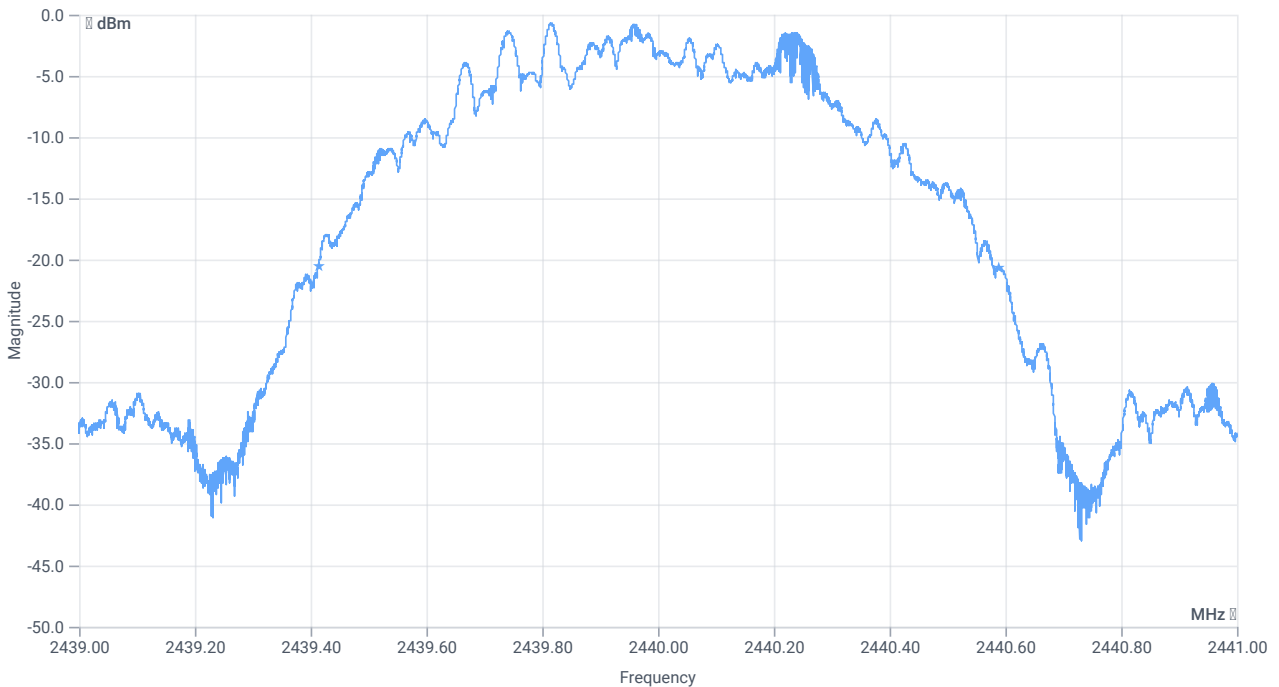




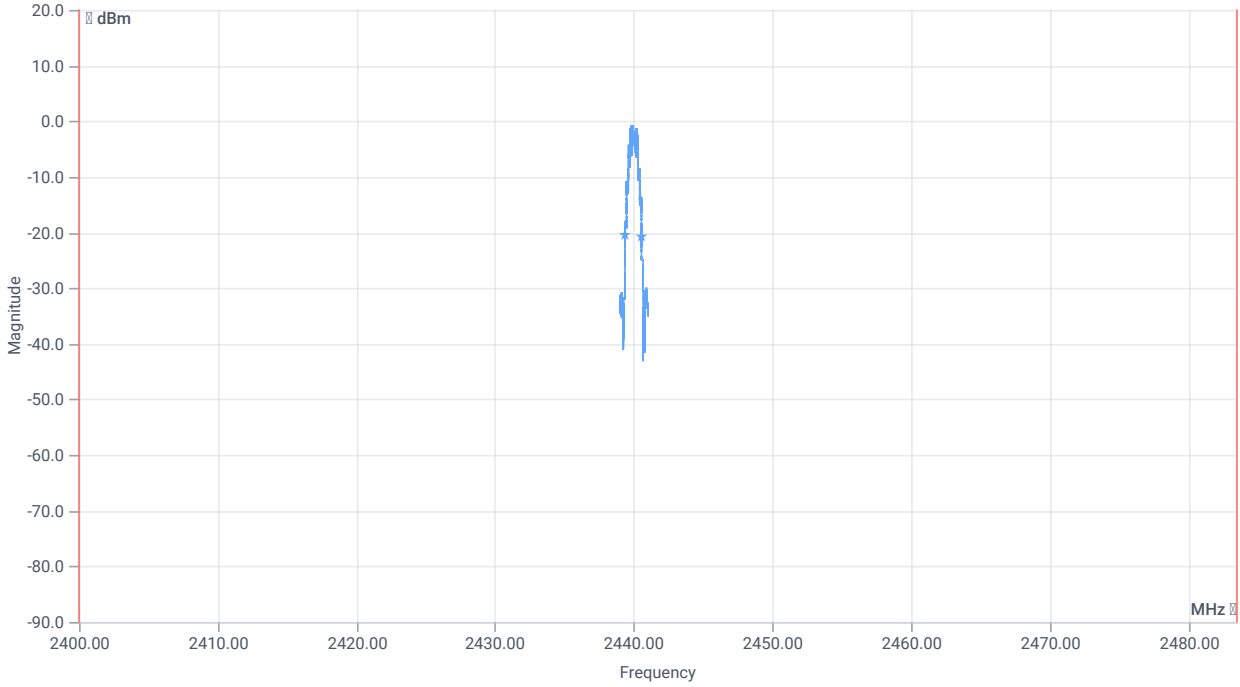
BW within Band 99PCT

RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|---------------|-------------|-------------|-----------|------|---------|
| Bandwidth 99% | -- | -- | 1042.000 | kHz | INFO |
| T1 99% | 2400.000000 | -- | 2439.4781 | MHz | PASS |
| T2 99% | -- | 2483.500000 | 2440.5201 | MHz | PASS |



BW 20dB



BW within band 20dB

RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|----------------|-------------|-------------|-----------|------|---------|
| Bandwidth 20dB | -- | -- | 1176 | kHz | INFO |
| T1 20dB | 2400.000000 | -- | 2439.4132 | MHz | PASS |
| T2 20dB | -- | 2483.500000 | 2440.5892 | MHz | PASS |

Verdict

PASS

FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ BT LE 1 Msps

References

| | |
|-----------------------------------|--|
| TC start | 26.01.2024 20:00:16 |
| Ambit temp [°C] humidity [rel%] | 26.7 35 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247, ISED RSS247 NI |
| Method | |
| Description | FCC 15.247 Bandwidth 99PCT-20dB DTS - BT LE 1 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|-------------------------|
| Technology to test | BT LE 1 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | True Freq [MHz] 2402 |
| Frequency mid to test | False Freq [MHz] 2440 |
| Frequency high to test | False Freq [MHz] 2480 |
| Auto control enabled power supply Climatic Box | No No |
| Additional path loss [dB] | 0.7 |

Test Parameter

| | |
|----------------|--|
| Full path type | EUT_SA_GEN_SIG |
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

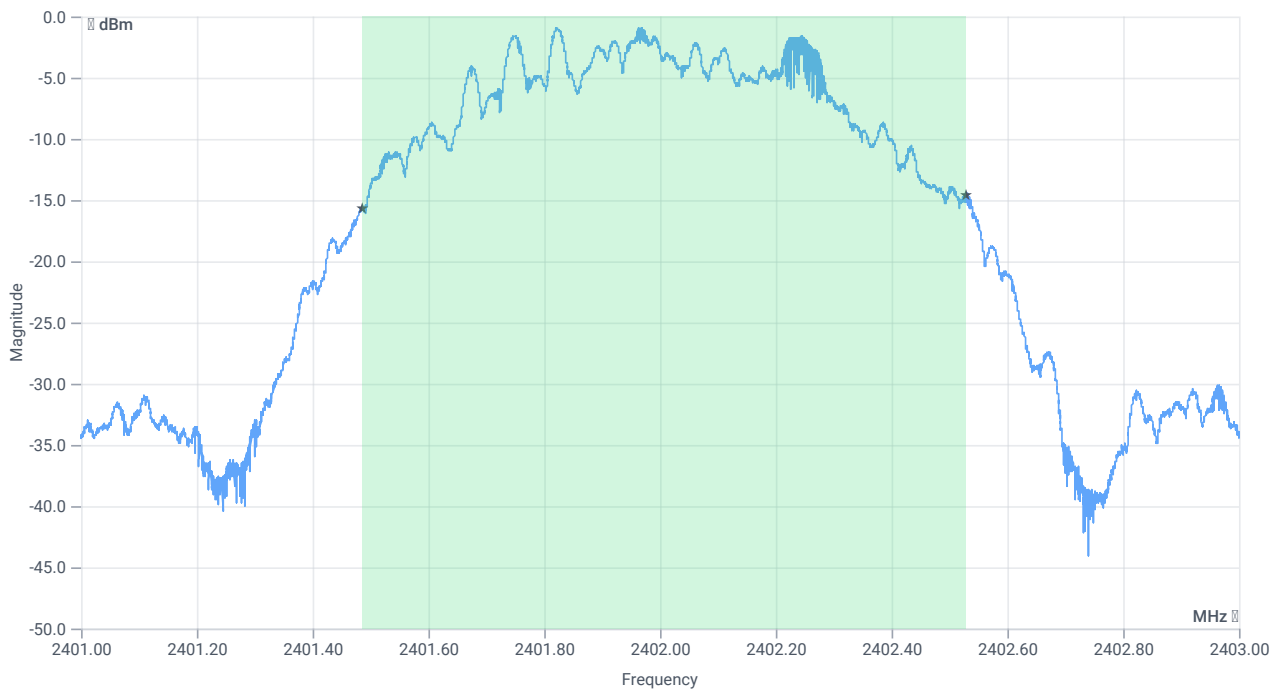
Test at TX 2402 MHz

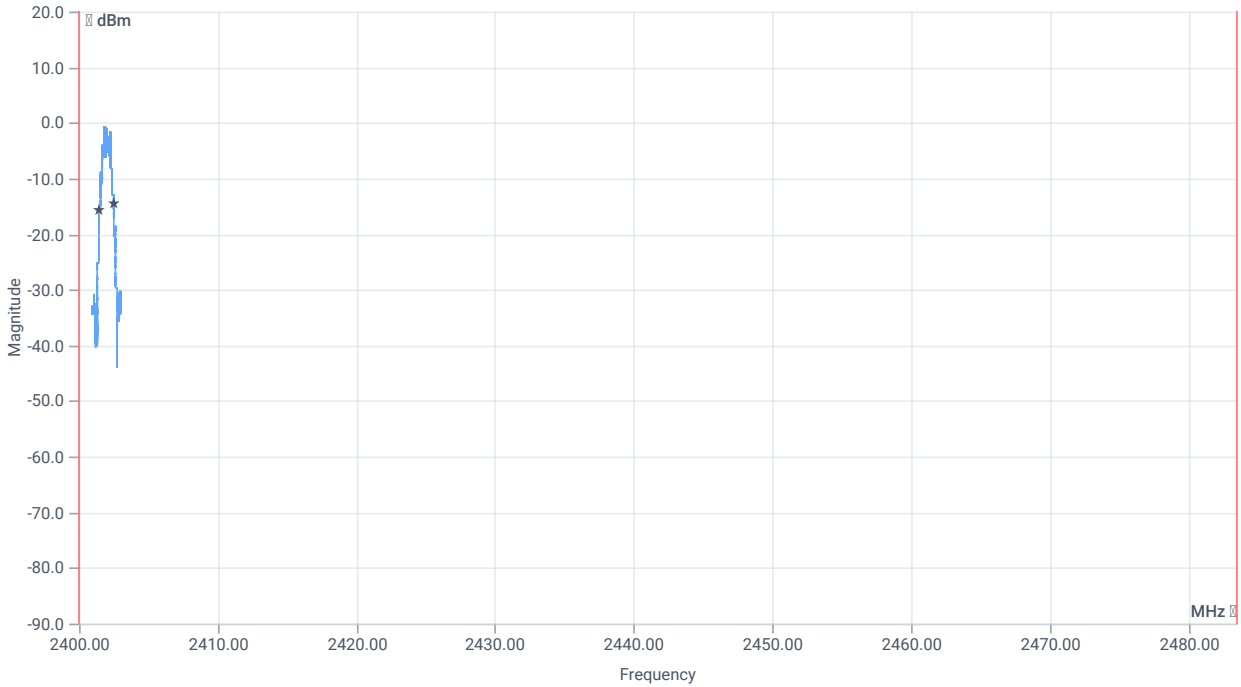
RESULT: Reference power cond.

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 5.63 | dBm | INFO |
| Ref. frequency | -- | -- | 2402.200 | MHz | INFO |

READ SA SETTINGS:

| | |
|--|------------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 10.63 8.96 20 |
| Start [MHz] Stop [MHz] | 2401.000 2403.000 |
| RBW [MHz] VBW [MHz] | 0.020000 0.100000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 50 200 10001 SWE |

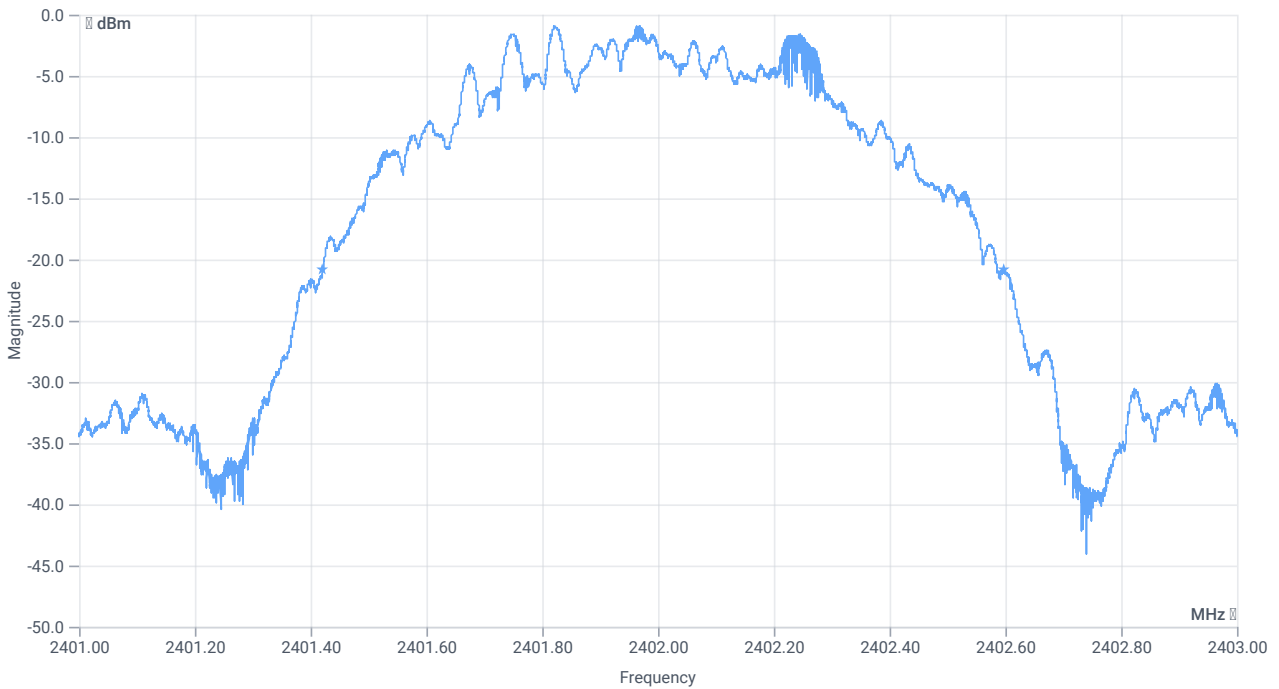




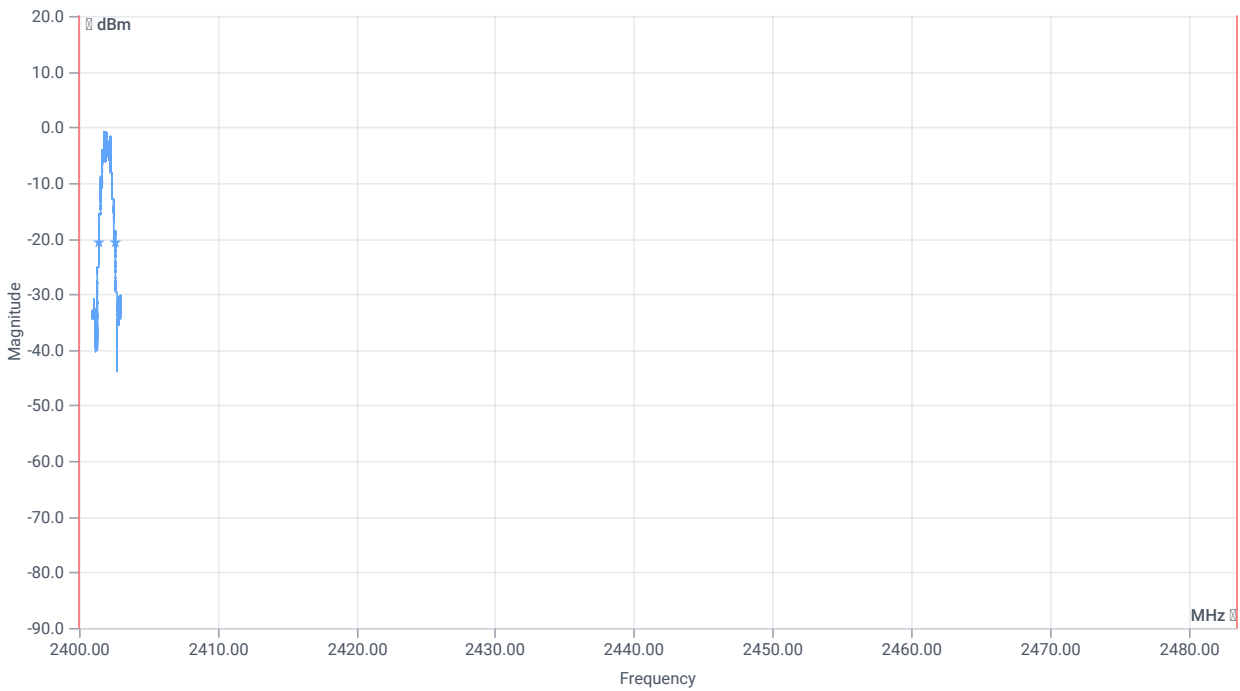
BW within Band 99PCT

RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|---------------|-------------|-------------|-----------|------|---------|
| Bandwidth 99% | -- | -- | 1040.000 | kHz | INFO |
| T1 99% | 2400.000000 | -- | 2401.4867 | MHz | PASS |
| T2 99% | -- | 2483.500000 | 2402.5271 | MHz | PASS |



BW 20dB



BW within band 20dB

RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|----------------|-------------|-------------|-----------|------|---------|
| Bandwidth 20dB | -- | -- | 1175 | kHz | INFO |
| T1 20dB | 2400.000000 | -- | 2401.4210 | MHz | PASS |
| T2 20dB | -- | 2483.500000 | 2402.5960 | MHz | PASS |

Verdict

PASS

FCC 15.247 # Maximum peak conducted output power DTS ~ BT LE 2 Msps

References

| | |
|-----------------------------------|---|
| TC start | 26.01.2024 21:33:06 |
| Ambit temp [°C] humidity [rel%] | 26.5 35 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247 NI |
| Method | DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth |
| Description | FCC 15.247 Maximum Peak Output Power Conducted DTS - BT LE 2 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|-------------------------|
| Technology to test | BT LE 2 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | False Freq [MHz] 2404 |
| Frequency mid to test | False Freq [MHz] 2440 |
| Frequency high to test | True Freq [MHz] 2478 |
| Auto control enabled power supply Climatic Box | No No |

Test Parameter

| | |
|---------------------------|--|
| Additional path loss [dB] | 0.7 |
| Full path type | EUT_SA_GEN_SIG |
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

Test at TX 2478 MHz

RESULT: Reference power cond.

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 5.68 | dBm | INFO |
| Ref. frequency | -- | -- | 2478.500 | MHz | INFO |

READ SA SETTINGS:

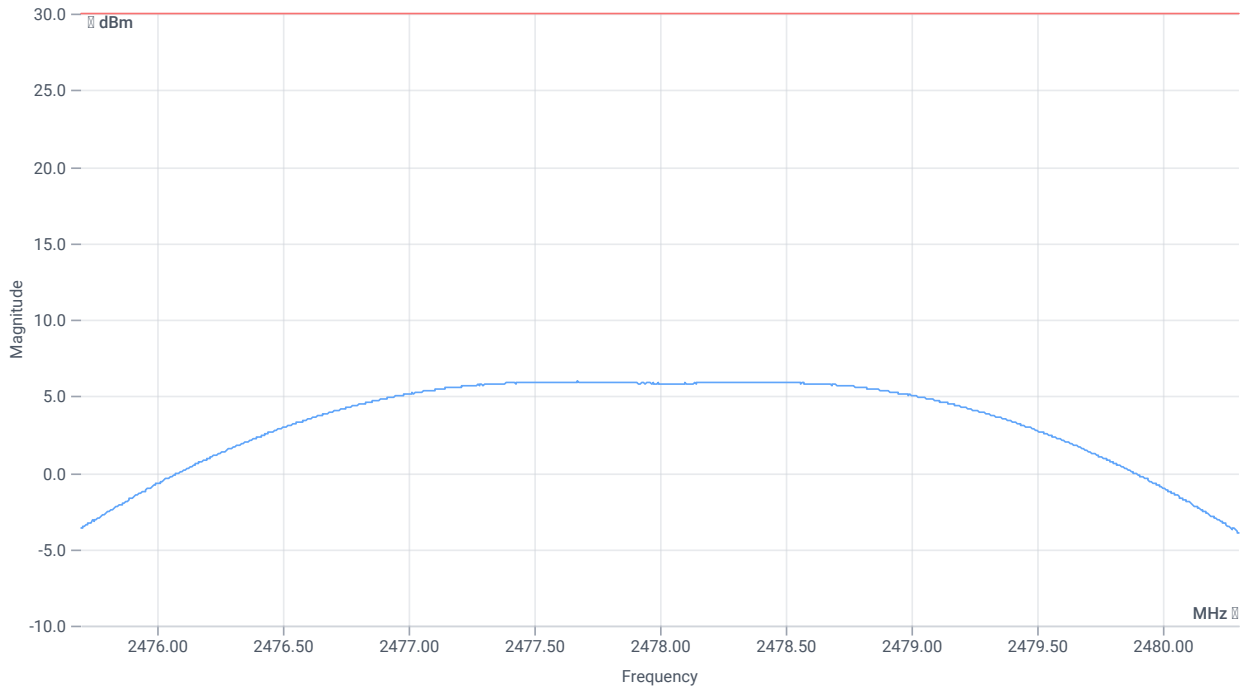
| | |
|--|------------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 10.68 9.09 20 |
| Start [MHz] Stop [MHz] | 2475.700 2480.300 |
| RBW [MHz] VBW [MHz] | 0.100000 0.300000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 50 200 10001 SWE |

DTS bandwidth

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|---------------------|-------------|-------------|----------|------|---------|
| DTS bandwidth (6dB) | -- | -- | 1228 | kHz | INFO |

READ SA SETTINGS:

| | |
|--|-----------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 15.68 9.09 25 |
| Start [MHz] Stop [MHz] | 2475.700 2480.300 |
| RBW [MHz] VBW [MHz] | 2.000000 5.000000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 50 200 1001 SWE |



Peak output power

RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------|-------------|-------------|----------|------|---------|
| Peak power | -- | 30.00 | 5.95 | dBm | PASS |
| Peak power | -- | 1000 | 3.935501 | mW | PASS |
| Frequency at peak | -- | -- | 2477.674 | MHz | INFO |

Verdict

PASS

FCC 15.247 # Maximum peak conducted output power DTS ~ BT LE 2 Msps

References

| | |
|-----------------------------------|---|
| TC start | 26.01.2024 21:14:21 |
| Ambit temp [°C] humidity [rel%] | 26.6 34 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247 NI |
| Method | DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth |
| Description | FCC 15.247 Maximum Peak Output Power Conducted DTS - BT LE 2 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|-------------------------|
| Technology to test | BT LE 2 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | False Freq [MHz] 2404 |
| Frequency mid to test | True Freq [MHz] 2440 |
| Frequency high to test | False Freq [MHz] 2478 |
| Auto control enabled power supply Climatic Box | No No |

Test Parameter

| | |
|---------------------------|--|
| Additional path loss [dB] | 0.7 |
| Full path type | EUT_SA_GEN_SIG |
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

Test at TX 2440 MHz

RESULT: Reference power cond.

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 6.00 | dBm | INFO |
| Ref. frequency | -- | -- | 2440.500 | MHz | INFO |

READ SA SETTINGS:

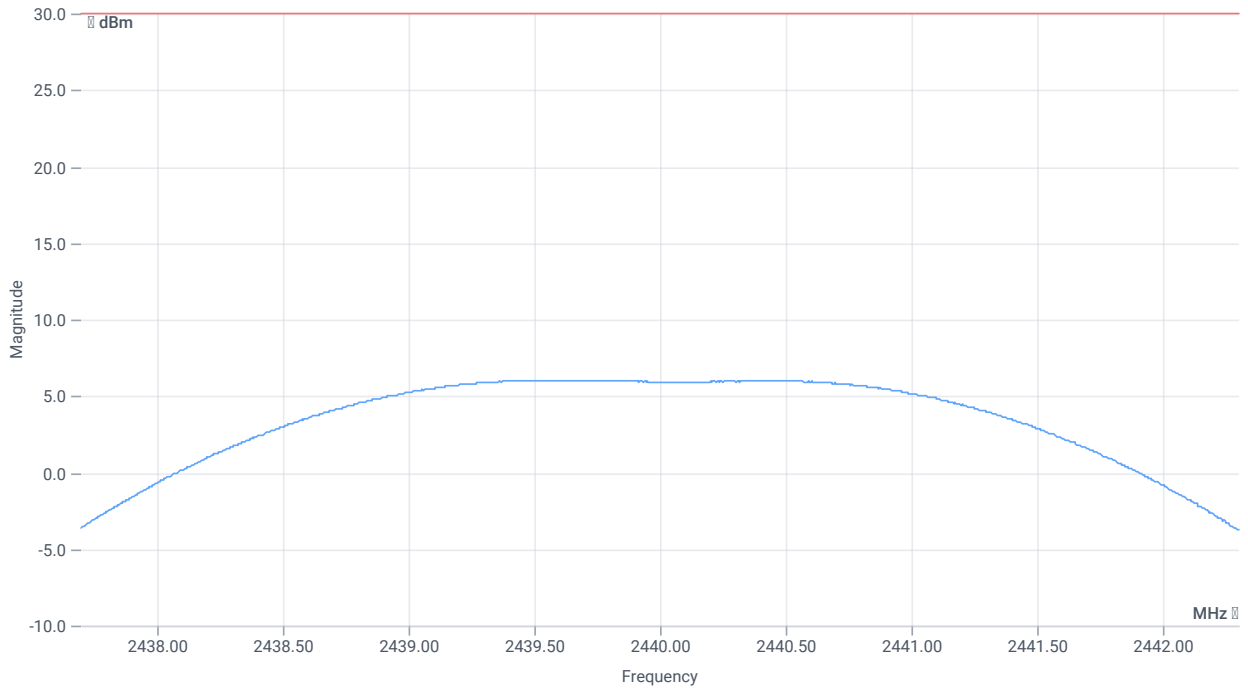
| | |
|--|------------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 11.00 9 20 |
| Start [MHz] Stop [MHz] | 2437.700 2442.300 |
| RBW [MHz] VBW [MHz] | 0.100000 0.300000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 50 200 10001 SWE |

DTS bandwidth

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|---------------------|-------------|-------------|----------|------|---------|
| DTS bandwidth (6dB) | -- | -- | 1230 | kHz | INFO |

READ SA SETTINGS:

| | |
|--|-----------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 16.00 9 25 |
| Start [MHz] Stop [MHz] | 2437.700 2442.300 |
| RBW [MHz] VBW [MHz] | 2.000000 5.000000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 50 200 1001 SWE |



Peak output power

RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------|-------------|-------------|----------|------|---------|
| Peak power | -- | 30.00 | 6.03 | dBm | PASS |
| Peak power | -- | 1000 | 4.008667 | mW | PASS |
| Frequency at peak | -- | -- | 2439.66 | MHz | INFO |

Verdict

PASS

FCC 15.247 # Maximum peak conducted output power DTS ~ BT LE 2 Msps

References

| | |
|-----------------------------------|---|
| TC start | 26.01.2024 20:55:25 |
| Ambit temp [°C] humidity [rel%] | 26.5 35 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247 NI |
| Method | DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth |
| Description | FCC 15.247 Maximum Peak Output Power Conducted DTS - BT LE 2 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|-------------------------|
| Technology to test | BT LE 2 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | True Freq [MHz] 2404 |
| Frequency mid to test | False Freq [MHz] 2440 |
| Frequency high to test | False Freq [MHz] 2478 |
| Auto control enabled power supply Climatic Box | No No |

Test Parameter

| | |
|---------------------------|--|
| Additional path loss [dB] | 0.7 |
| Full path type | EUT_SA_GEN_SIG |
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

Test at TX 2404 MHz

RESULT: Reference power cond.

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 5.88 | dBm | INFO |
| Ref. frequency | -- | -- | 2404.500 | MHz | INFO |

READ SA SETTINGS:

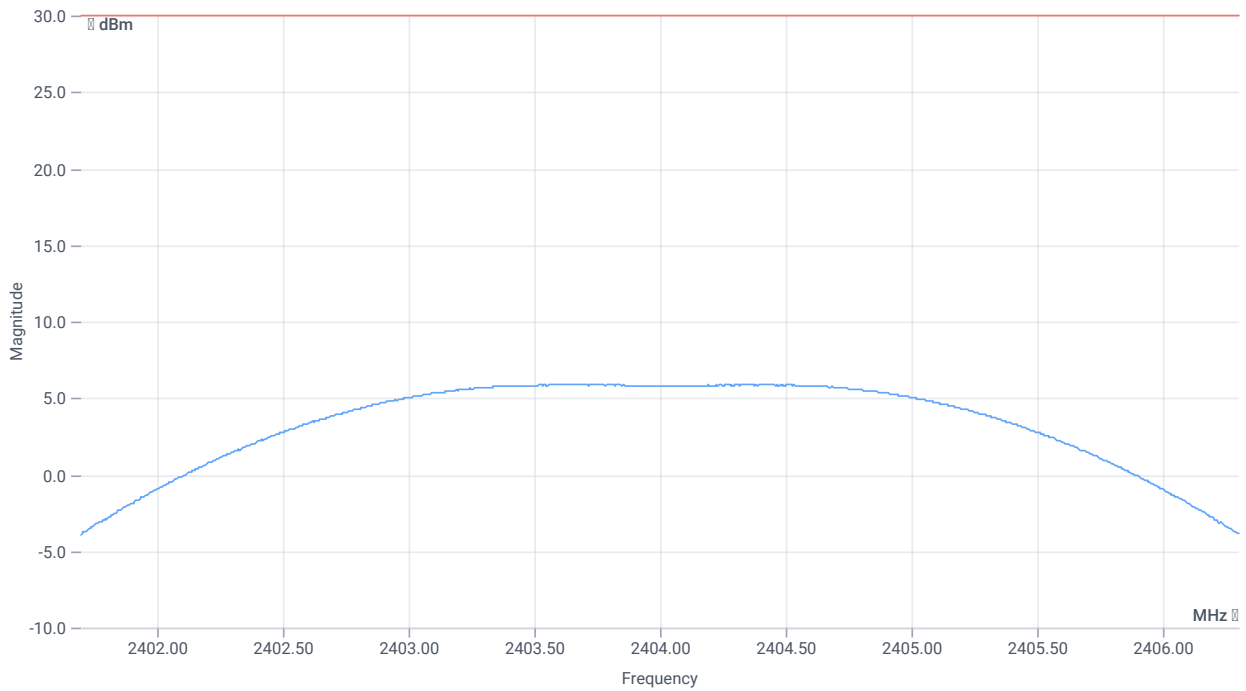
| | |
|--|------------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 10.88 8.96 20 |
| Start [MHz] Stop [MHz] | 2401.700 2406.300 |
| RBW [MHz] VBW [MHz] | 0.100000 0.300000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 50 200 10001 SWE |

DTS bandwidth

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|---------------------|-------------|-------------|----------|------|---------|
| DTS bandwidth (6dB) | -- | -- | 1226 | kHz | INFO |

READ SA SETTINGS:

| | |
|--|-----------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 15.88 8.96 25 |
| Start [MHz] Stop [MHz] | 2401.700 2406.300 |
| RBW [MHz] VBW [MHz] | 2.000000 5.000000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 50 200 1001 SWE |



Peak output power

RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------|-------------|-------------|----------|------|---------|
| Peak power | -- | 30.00 | 5.88 | dBm | PASS |
| Peak power | -- | 1000 | 3.872576 | mW | PASS |
| Frequency at peak | -- | -- | 2403.71 | MHz | INFO |

Verdict

PASS

FCC 15.247 # Maximum peak conducted output power DTS ~ BT LE 1 Msps

References

| | |
|-----------------------------------|---|
| TC start | 26.01.2024 20:36:18 |
| Ambit temp [°C] humidity [rel%] | 26.7 35 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247 NI |
| Method | DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth |
| Description | FCC 15.247 Maximum Peak Output Power Conducted DTS - BT LE 1 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|-------------------------|
| Technology to test | BT LE 1 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | False Freq [MHz] 2402 |
| Frequency mid to test | False Freq [MHz] 2440 |
| Frequency high to test | True Freq [MHz] 2480 |
| Auto control enabled power supply Climatic Box | No No |

Test Parameter

| | |
|---------------------------|--|
| Additional path loss [dB] | 0.7 |
| Full path type | EUT_SA_GEN_SIG |
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

Test at TX 2480 MHz

RESULT: Reference power cond.

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 5.52 | dBm | INFO |
| Ref. frequency | -- | -- | 2480.200 | MHz | INFO |

READ SA SETTINGS:

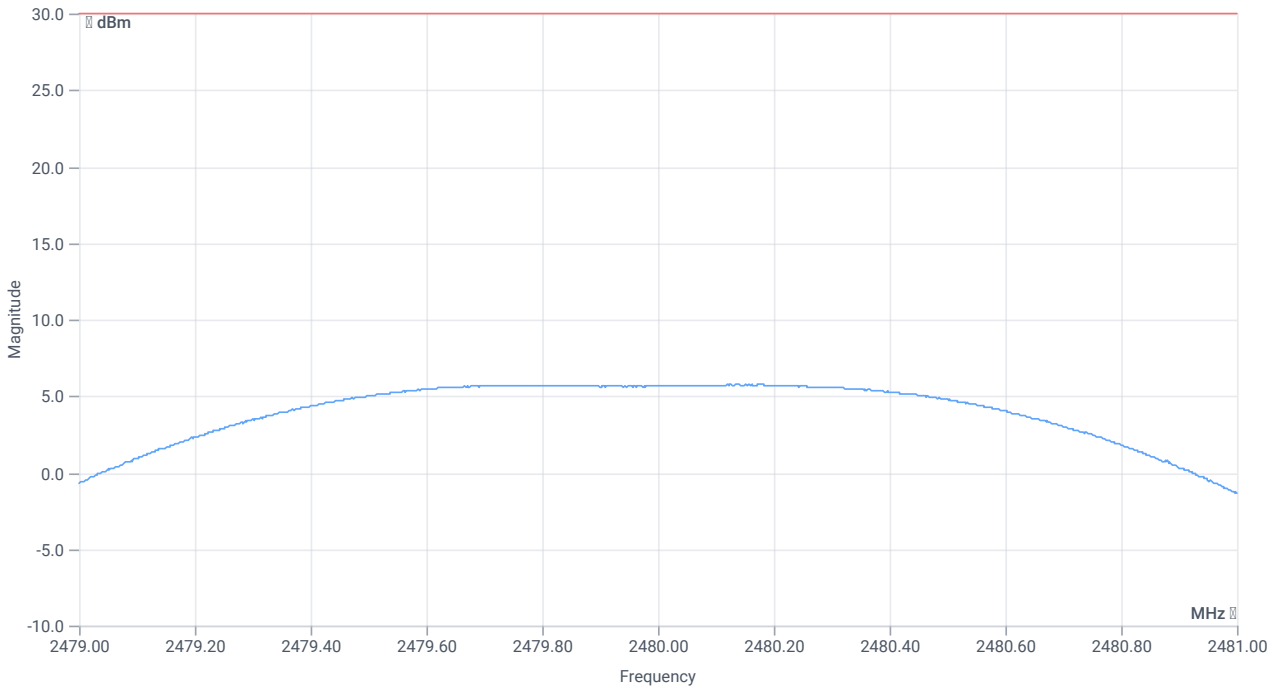
| | |
|--|------------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 10.52 9.1 20 |
| Start [MHz] Stop [MHz] | 2479.000 2481.000 |
| RBW [MHz] VBW [MHz] | 0.100000 0.300000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 50 200 10001 SWE |

DTS bandwidth

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|---------------------|-------------|-------------|----------|------|---------|
| DTS bandwidth (6dB) | -- | -- | 664 | kHz | INFO |

READ SA SETTINGS:

| | |
|--|-----------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 15.52 9.1 25 |
| Start [MHz] Stop [MHz] | 2479.000 2481.000 |
| RBW [MHz] VBW [MHz] | 1.000000 3.000000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 50 200 1001 SWE |



Peak output power

RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------|-------------|-------------|----------|------|---------|
| Peak power | -- | 30.00 | 5.78 | dBm | PASS |
| Peak power | -- | 1000 | 3.784426 | mW | PASS |
| Frequency at peak | -- | -- | 2480.134 | MHz | INFO |

Verdict

PASS

FCC 15.247 # Maximum peak conducted output power DTS ~ BT LE 1 Msps

References

| | |
|-----------------------------------|---|
| TC start | 26.01.2024 20:16:58 |
| Ambit temp [°C] humidity [rel%] | 26.6 36 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247 NI |
| Method | DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth |
| Description | FCC 15.247 Maximum Peak Output Power Conducted DTS - BT LE 1 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|-------------------------|
| Technology to test | BT LE 1 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | False Freq [MHz] 2402 |
| Frequency mid to test | True Freq [MHz] 2440 |
| Frequency high to test | False Freq [MHz] 2480 |
| Auto control enabled power supply Climatic Box | No No |

Test Parameter

| | |
|---------------------------|--|
| Additional path loss [dB] | 0.7 |
| Full path type | EUT_SA_GEN_SIG |
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

Test at TX 2440 MHz

RESULT: Reference power cond.

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 5.75 | dBm | INFO |
| Ref. frequency | -- | -- | 2440.200 | MHz | INFO |

READ SA SETTINGS:

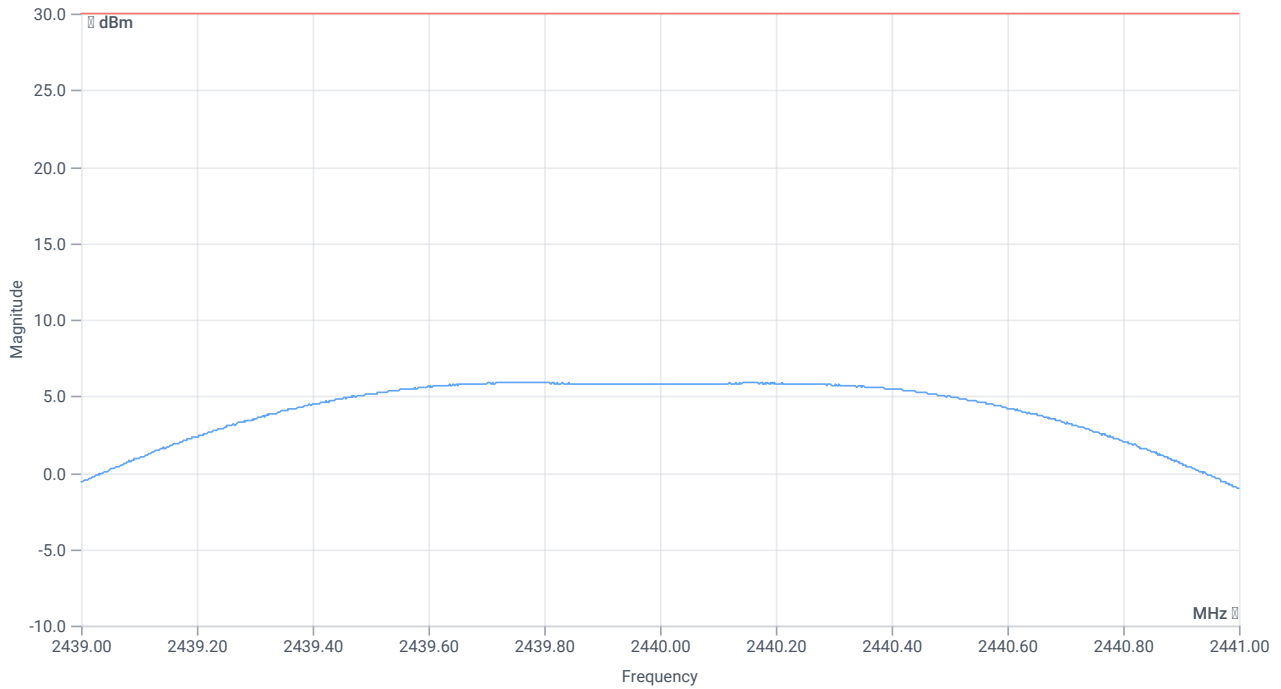
| | |
|--|------------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 10.75 9 20 |
| Start [MHz] Stop [MHz] | 2439.000 2441.000 |
| RBW [MHz] VBW [MHz] | 0.100000 0.300000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 50 200 10001 SWE |

DTS bandwidth

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|---------------------|-------------|-------------|----------|------|---------|
| DTS bandwidth (6dB) | -- | -- | 663 | kHz | INFO |

READ SA SETTINGS:

| | |
|--|-----------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 15.75 9 25 |
| Start [MHz] Stop [MHz] | 2439.000 2441.000 |
| RBW [MHz] VBW [MHz] | 1.000000 3.000000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 50 200 1001 SWE |



Peak output power

RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------|-------------|-------------|----------|------|---------|
| Peak power | -- | 30.00 | 5.89 | dBm | PASS |
| Peak power | -- | 1000 | 3.881504 | mW | PASS |
| Frequency at peak | -- | -- | 2439.792 | MHz | INFO |

Verdict

PASS

FCC 15.247 # Maximum peak conducted output power DTS ~ BT LE 1 Msps

References

| | |
|-----------------------------------|---|
| TC start | 26.01.2024 19:57:54 |
| Ambit temp [°C] humidity [rel%] | 26.7 35 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247 NI |
| Method | DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth |
| Description | FCC 15.247 Maximum Peak Output Power Conducted DTS - BT LE 1 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|-------------------------|
| Technology to test | BT LE 1 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | True Freq [MHz] 2402 |
| Frequency mid to test | False Freq [MHz] 2440 |
| Frequency high to test | False Freq [MHz] 2480 |
| Auto control enabled power supply Climatic Box | No No |

Test Parameter

| | |
|---------------------------|--|
| Additional path loss [dB] | 0.7 |
| Full path type | EUT_SA_GEN_SIG |
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

Test at TX 2402 MHz

RESULT: Reference power cond.

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 5.56 | dBm | INFO |
| Ref. frequency | -- | -- | 2402.300 | MHz | INFO |

READ SA SETTINGS:

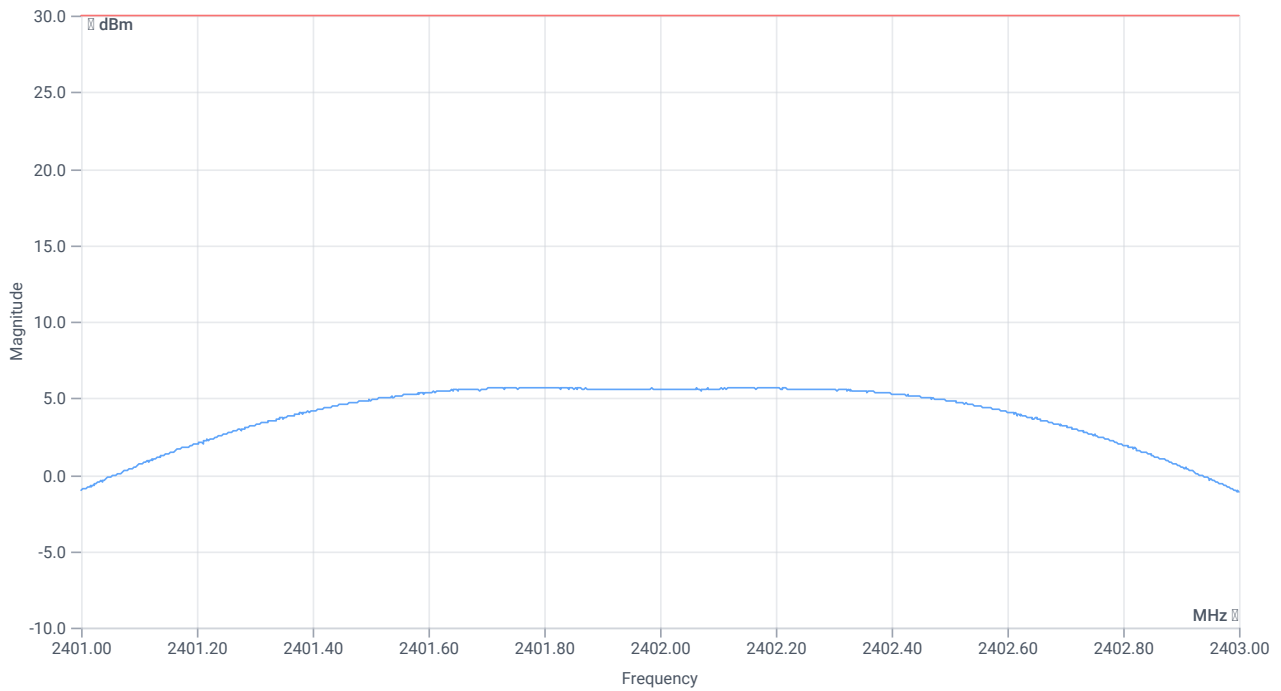
| | |
|--|------------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 10.56 8.96 20 |
| Start [MHz] Stop [MHz] | 2401.000 2403.000 |
| RBW [MHz] VBW [MHz] | 0.100000 0.300000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 50 200 10001 SWE |

DTS bandwidth

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|---------------------|-------------|-------------|----------|------|---------|
| DTS bandwidth (6dB) | -- | -- | 664 | kHz | INFO |

READ SA SETTINGS:

| | |
|--|-----------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 15.56 8.96 25 |
| Start [MHz] Stop [MHz] | 2401.000 2403.000 |
| RBW [MHz] VBW [MHz] | 1.000000 3.000000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 50 200 1001 SWE |



Peak output power

RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------|-------------|-------------|----------|------|---------|
| Peak power | -- | 30.00 | 5.7 | dBm | PASS |
| Peak power | -- | 1000 | 3.715352 | mW | PASS |
| Frequency at peak | -- | -- | 2401.794 | MHz | INFO |

Verdict

PASS

FCC 15.247 # Peak psd DTS ~ BT LE 2 Msps

References

| | |
|-----------------------------------|--|
| TC start | 26.01.2024 21:34:50 |
| Ambit temp [°C] humidity [rel%] | 26.6 34 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247 NI |
| Method | DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission |
| Description | FCC 15.247 Peak psd DTS - BT LE 2 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|-------------------------|
| Technology to test | BT LE 2 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | False Freq [MHz] 2404 |
| Frequency mid to test | False Freq [MHz] 2440 |
| Frequency high to test | True Freq [MHz] 2478 |
| Auto control enabled power supply Climatic Box | No No |
| Additional path loss [dB] | 0.7 |

Test Parameter

| | |
|----------------|--|
| Full path type | EUT_SA_GEN_SIG |
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

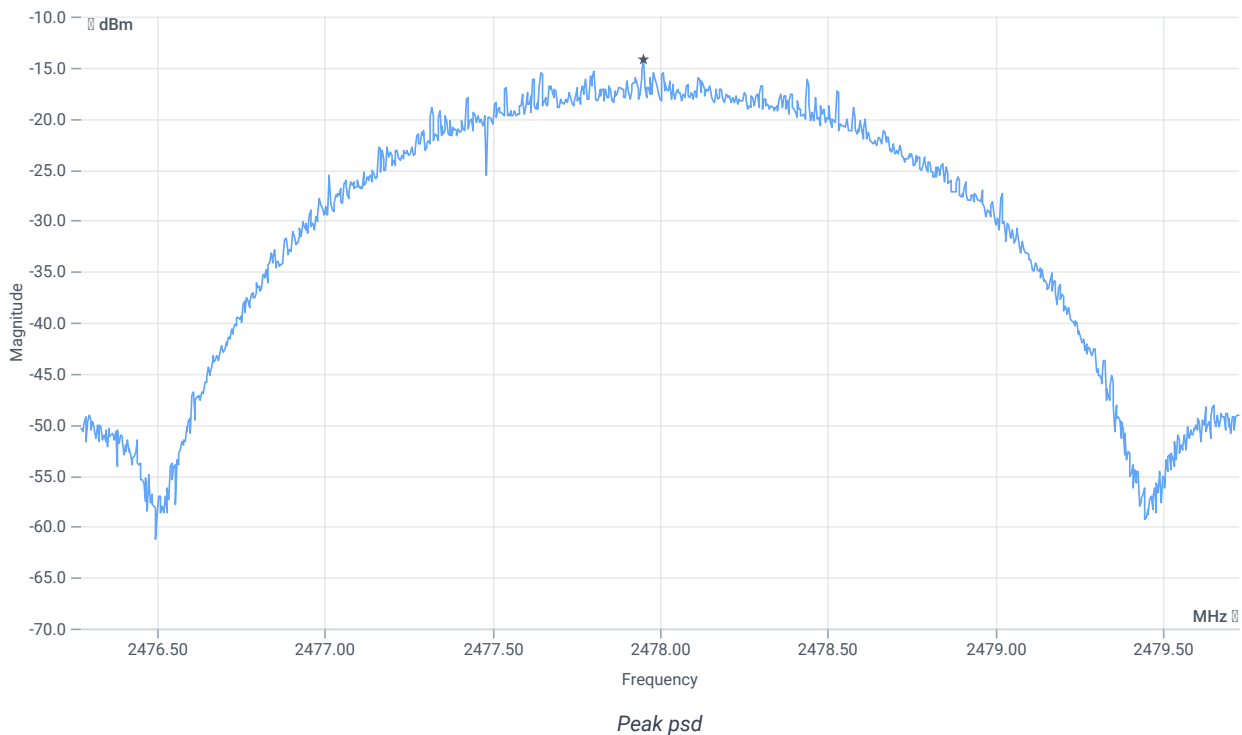
Test at TX 2478 MHz

RESULT: Reference power cond.

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 5.79 | dBm | INFO |
| Ref. frequency | -- | -- | 2478.500 | MHz | INFO |

READ SA SETTINGS:

| | |
|--|------------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 10.79 9.09 20 |
| Start [MHz] Stop [MHz] | 2476.275 2479.725 |
| RBW [MHz] VBW [MHz] | 0.003000 0.010000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 1000 20 1001 SWE |



RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------|-------------|-------------|----------|----------|---------|
| Peak psd | -- | 8 | -14.26 | dBm/3KHz | PASS |

Verdict

PASS

FCC 15.247 # Peak psd DTS ~ BT LE 2 Msps

References

| | |
|-----------------------------------|--|
| TC start | 26.01.2024 21:15:41 |
| Ambit temp [°C] humidity [rel%] | 26.6 35 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247 NI |
| Method | DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission |
| Description | FCC 15.247 Peak psd DTS - BT LE 2 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|-------------------------|
| Technology to test | BT LE 2 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | False Freq [MHz] 2404 |
| Frequency mid to test | True Freq [MHz] 2440 |
| Frequency high to test | False Freq [MHz] 2478 |
| Auto control enabled power supply Climatic Box | No No |
| Additional path loss [dB] | 0.7 |

Test Parameter

| | |
|----------------|--|
| Full path type | EUT_SA_GEN_SIG |
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

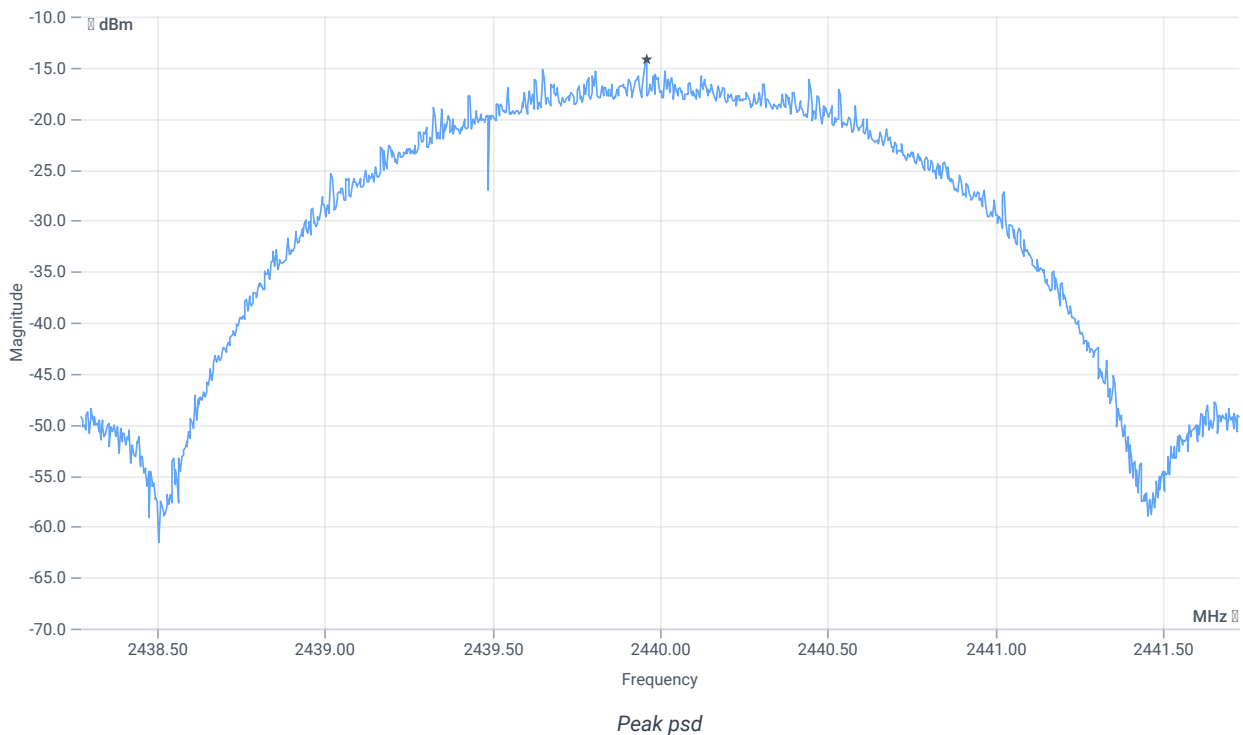
Test at TX 2440 MHz

RESULT: Reference power cond.

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 5.88 | dBm | INFO |
| Ref. frequency | -- | -- | 2440.500 | MHz | INFO |

READ SA SETTINGS:

| | |
|--|------------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 10.88 9 20 |
| Start [MHz] Stop [MHz] | 2438.275 2441.725 |
| RBW [MHz] VBW [MHz] | 0.003000 0.010000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 1000 20 1001 SWE |



RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------|-------------|-------------|----------|----------|---------|
| Peak psd | -- | 8 | -14.16 | dBm/3KHz | PASS |

Verdict

PASS

FCC 15.247 # Peak psd DTS ~ BT LE 2 Msps

References

| | |
|-----------------------------------|--|
| TC start | 26.01.2024 20:57:49 |
| Ambit temp [°C] humidity [rel%] | 26.6 35 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247 NI |
| Method | DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission |
| Description | FCC 15.247 Peak psd DTS - BT LE 2 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|-------------------------|
| Technology to test | BT LE 2 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | True Freq [MHz] 2404 |
| Frequency mid to test | False Freq [MHz] 2440 |
| Frequency high to test | False Freq [MHz] 2478 |
| Auto control enabled power supply Climatic Box | No No |
| Additional path loss [dB] | 0.7 |

Test Parameter

| | |
|----------------|--|
| Full path type | EUT_SA_GEN_SIG |
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

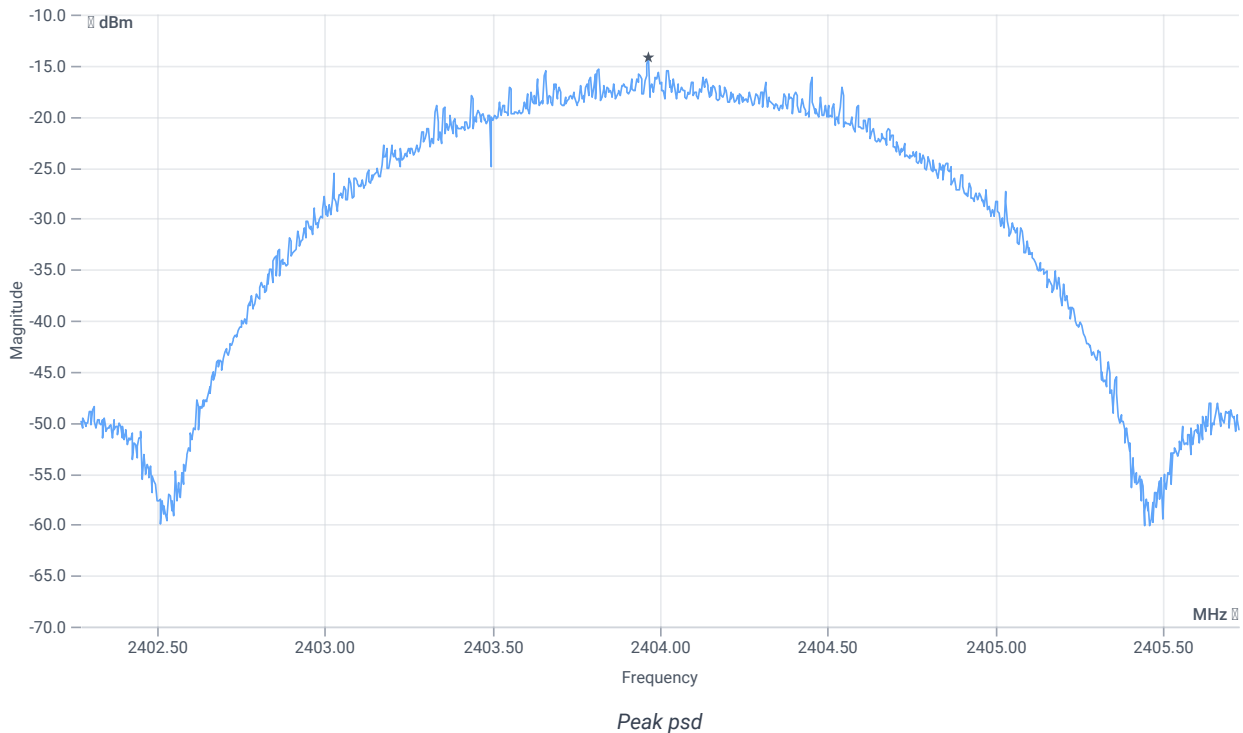
Test at TX 2404 MHz

RESULT: Reference power cond.

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 5.85 | dBm | INFO |
| Ref. frequency | -- | -- | 2404.500 | MHz | INFO |

READ SA SETTINGS:

| | |
|--|------------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 10.85 8.96 20 |
| Start [MHz] Stop [MHz] | 2402.275 2405.725 |
| RBW [MHz] VBW [MHz] | 0.003000 0.010000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 1000 20 1001 SWE |



RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------|-------------|-------------|----------|----------|---------|
| Peak psd | -- | 8 | -14.19 | dBm/3KHz | PASS |

Verdict

PASS

FCC 15.247 # Peak psd DTS ~ BT LE 1 Msps

References

| | |
|-----------------------------------|--|
| TC start | 26.01.2024 20:37:53 |
| Ambit temp [°C] humidity [rel%] | 26.6 35 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247 NI |
| Method | DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission |
| Description | FCC 15.247 Peak psd DTS - BT LE 1 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|-------------------------|
| Technology to test | BT LE 1 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | False Freq [MHz] 2402 |
| Frequency mid to test | False Freq [MHz] 2440 |
| Frequency high to test | True Freq [MHz] 2480 |
| Auto control enabled power supply Climatic Box | No No |
| Additional path loss [dB] | 0.7 |

Test Parameter

| | |
|----------------|--|
| Full path type | EUT_SA_GEN_SIG |
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

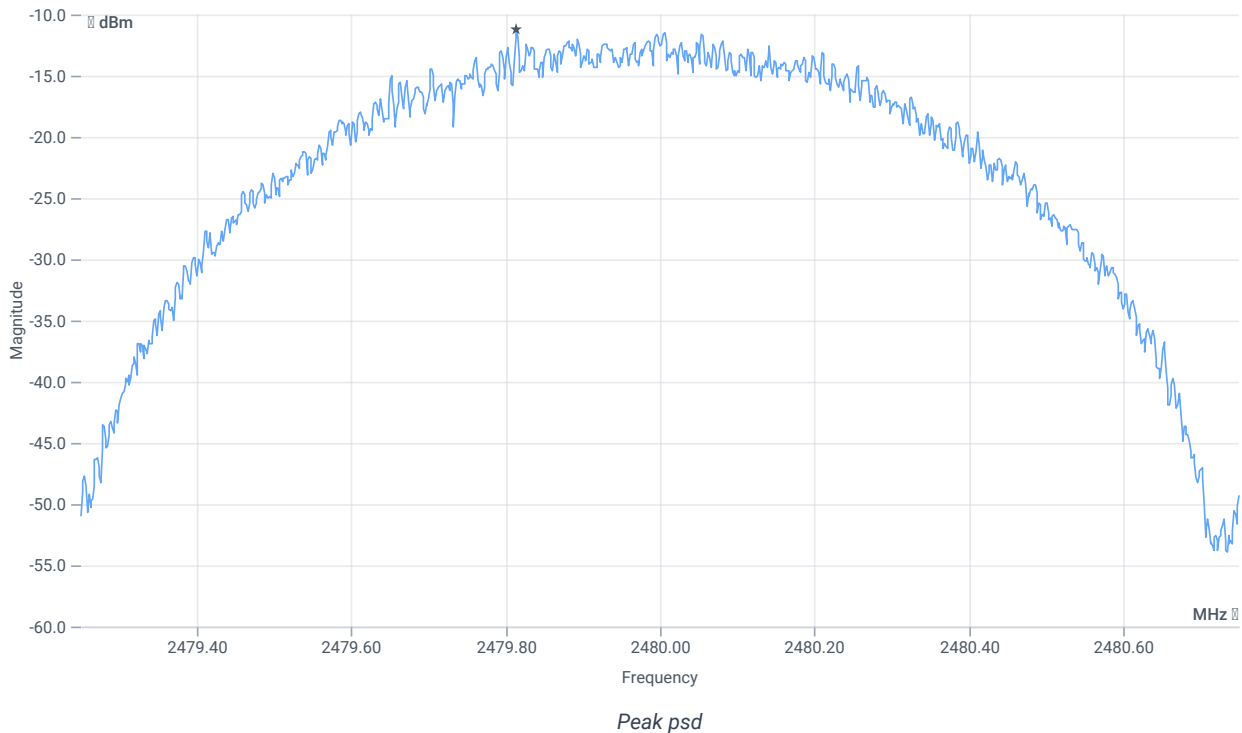
Test at TX 2480 MHz

RESULT: Reference power cond.

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 5.52 | dBm | INFO |
| Ref. frequency | -- | -- | 2480.200 | MHz | INFO |

READ SA SETTINGS:

| | |
|--|------------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 10.52 9.1 20 |
| Start [MHz] Stop [MHz] | 2479.250 2480.750 |
| RBW [MHz] VBW [MHz] | 0.003000 0.010000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 1000 20 1001 SWE |



RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------|-------------|-------------|----------|----------|---------|
| Peak psd | -- | 8 | -11.28 | dBm/3KHz | PASS |

Verdict

PASS

FCC 15.247 # Peak psd DTS ~ BT LE 1 Msps

References

| | |
|-----------------------------------|--|
| TC start | 26.01.2024 20:18:17 |
| Ambit temp [°C] humidity [rel%] | 26.6 35 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247 NI |
| Method | DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission |
| Description | FCC 15.247 Peak psd DTS - BT LE 1 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|-------------------------|
| Technology to test | BT LE 1 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | False Freq [MHz] 2402 |
| Frequency mid to test | True Freq [MHz] 2440 |
| Frequency high to test | False Freq [MHz] 2480 |
| Auto control enabled power supply Climatic Box | No No |
| Additional path loss [dB] | 0.7 |

Test Parameter

| | |
|----------------|--|
| Full path type | EUT_SA_GEN_SIG |
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

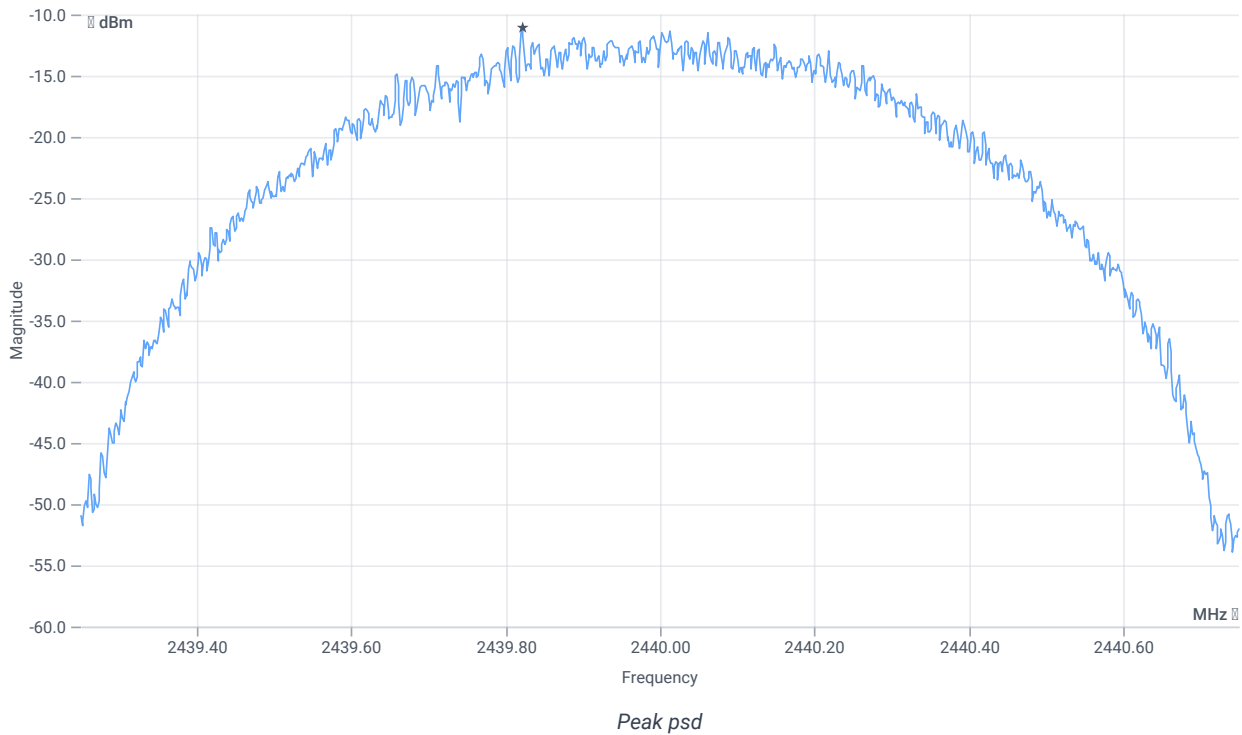
Test at TX 2440 MHz

RESULT: Reference power cond.

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 5.74 | dBm | INFO |
| Ref. frequency | -- | -- | 2440.200 | MHz | INFO |

READ SA SETTINGS:

| | |
|--|------------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 10.74 9 20 |
| Start [MHz] Stop [MHz] | 2439.250 2440.750 |
| RBW [MHz] VBW [MHz] | 0.003000 0.010000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 1000 20 1001 SWE |



RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------|-------------|-------------|----------|----------|---------|
| Peak psd | -- | 8 | -11.05 | dBm/3KHz | PASS |

Verdict

PASS

FCC 15.247 # Peak psd DTS ~ BT LE 1 Msps

References

| | |
|-----------------------------------|--|
| TC start | 26.01.2024 19:59:31 |
| Ambit temp [°C] humidity [rel%] | 26.7 35 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247 NI |
| Method | DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission |
| Description | FCC 15.247 Peak psd DTS - BT LE 1 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|-------------------------|
| Technology to test | BT LE 1 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | True Freq [MHz] 2402 |
| Frequency mid to test | False Freq [MHz] 2440 |
| Frequency high to test | False Freq [MHz] 2480 |
| Auto control enabled power supply Climatic Box | No No |
| Additional path loss [dB] | 0.7 |

Test Parameter

| | |
|----------------|--|
| Full path type | EUT_SA_GEN_SIG |
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

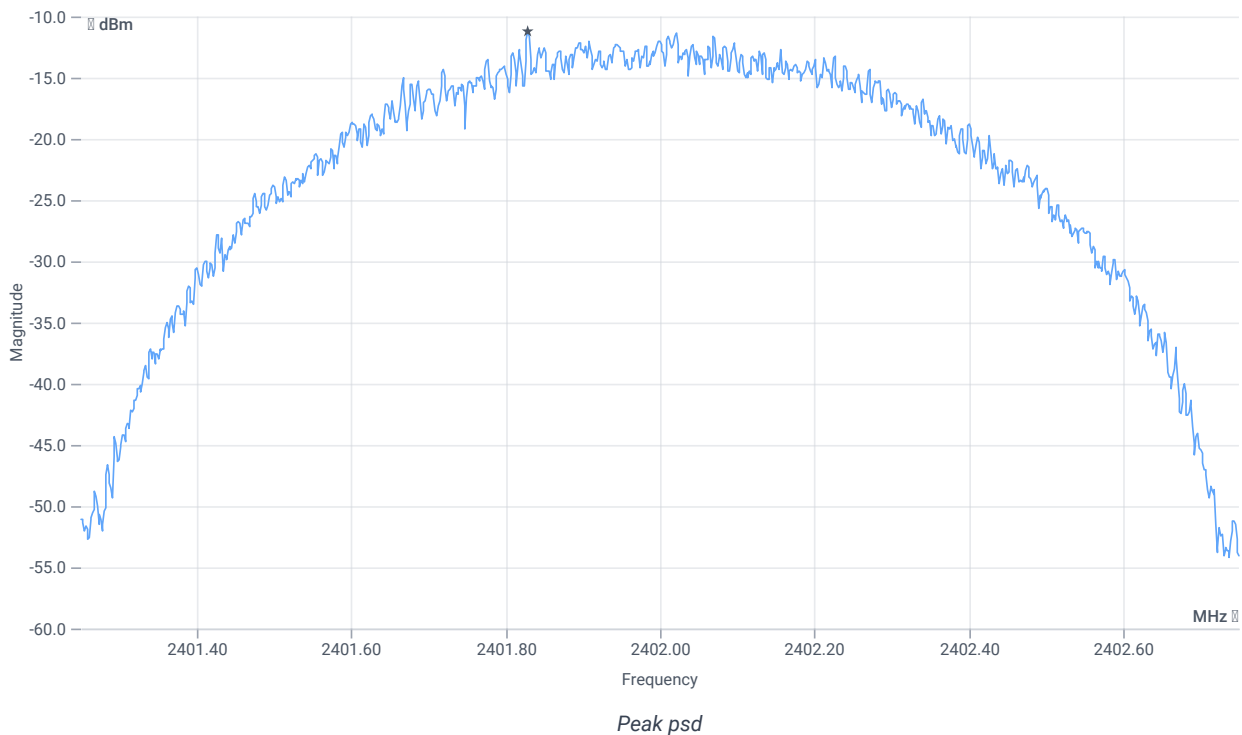
Test at TX 2402 MHz

RESULT: Reference power cond.

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 5.60 | dBm | INFO |
| Ref. frequency | -- | -- | 2402.200 | MHz | INFO |

READ SA SETTINGS:

| | |
|--|------------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 10.60 8.96 20 |
| Start [MHz] Stop [MHz] | 2401.250 2402.750 |
| RBW [MHz] VBW [MHz] | 0.003000 0.010000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 1000 20 1001 SWE |



RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------|-------------|-------------|----------|----------|---------|
| Peak psd | -- | 8 | -11.25 | dBm/3KHz | PASS |

Verdict

PASS

FCC 15.247 # TX spurious conducted 20dBc ~ BT LE 2 Msps

References

| | |
|-----------------------------------|--|
| TC start | 26.01.2024 21:17:15 |
| Ambit temp [°C] humidity [rel%] | 26.5 34 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247 NI |
| Method | IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable |
| Description | FCC 15.247 TX Emissions Conducted DTS - BT LE 2 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|-------------------------|
| Technology to test | BT LE 2 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | False Freq [MHz] 2404 |
| Frequency mid to test | True Freq [MHz] 2440 |
| Frequency high to test | False Freq [MHz] 2478 |
| Auto control enabled power supply Climatic Box | No No |
| Additional path loss [dB] | 0.7 |

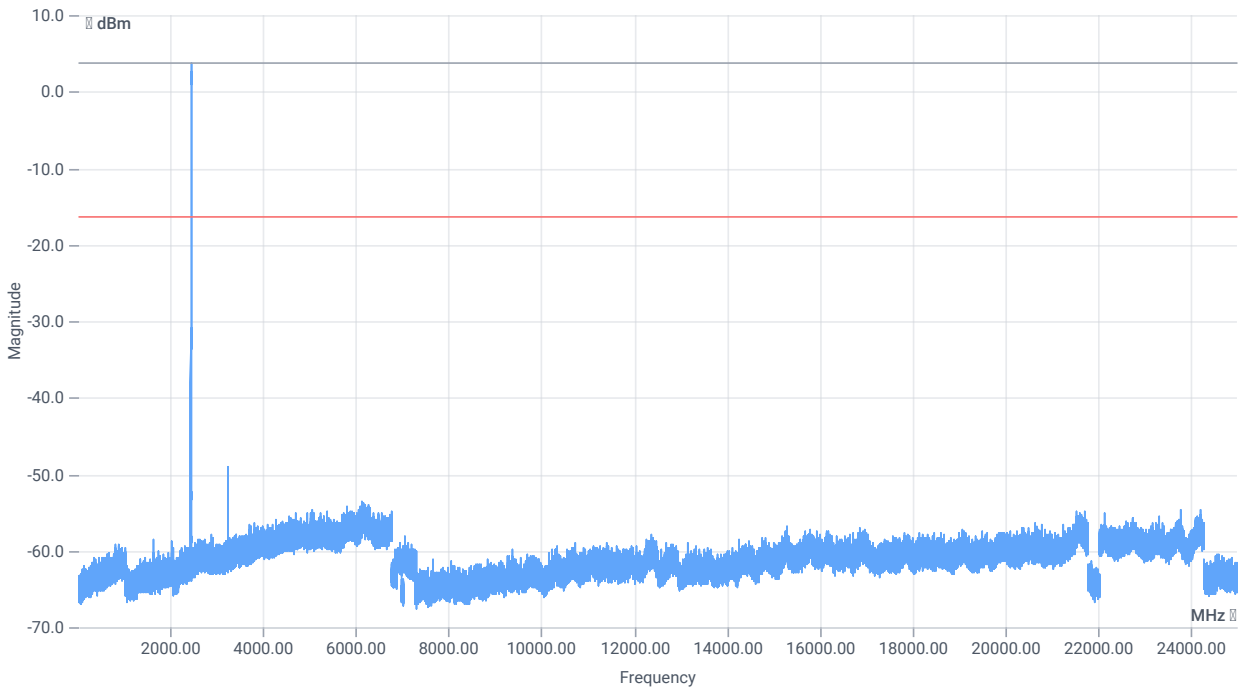
Test Parameter

| | |
|----------------|--|
| Full path type | EUT_SA_GEN_SIG |
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

Test at TX 2440 MHz

RESULT: Reference power cond.

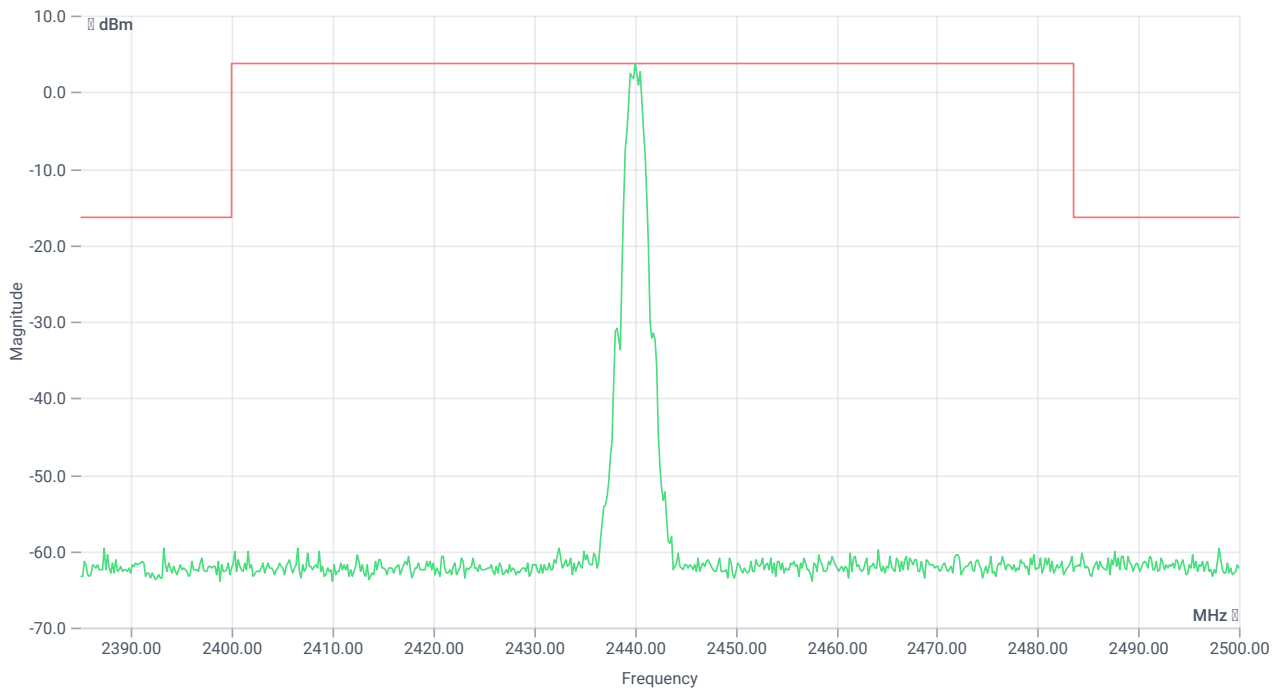
| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 5.86 | dBm | INFO |
| Ref. frequency | -- | -- | 2440.500 | MHz | INFO |



TX emissions

READ SA SETTINGS:

| | |
|--|-----------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 5.86 15.92 5 |
| Start [MHz] Stop [MHz] | 24780.000 25000.000 |
| RBW [MHz] VBW [MHz] | 0.100000 0.300000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 200 25 1501 SWE |



TX emissions band zoomed

RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Reference @ 2440.00 MHz | -- | -- | 3.64 | dBm | INFO |
| No peaks detected | -- | -- | | | PASS |
| Lowest margin to limit 30 MHz | 0 | -- | -134.92 | dB | INFO |

Verdict

PASS

FCC 15.247 # TX spurious conducted 20dBc ~ BT LE 2 Msps

References

| | |
|-----------------------------------|--|
| TC start | 26.01.2024 20:59:21 |
| Ambit temp [°C] humidity [rel%] | 26.6 35 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247 NI |
| Method | IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable |
| Description | FCC 15.247 TX Emissions Conducted DTS - BT LE 2 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|-------------------------|
| Technology to test | BT LE 2 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | True Freq [MHz] 2404 |
| Frequency mid to test | False Freq [MHz] 2440 |
| Frequency high to test | False Freq [MHz] 2478 |
| Auto control enabled power supply Climatic Box | No No |
| Additional path loss [dB] | 0.7 |

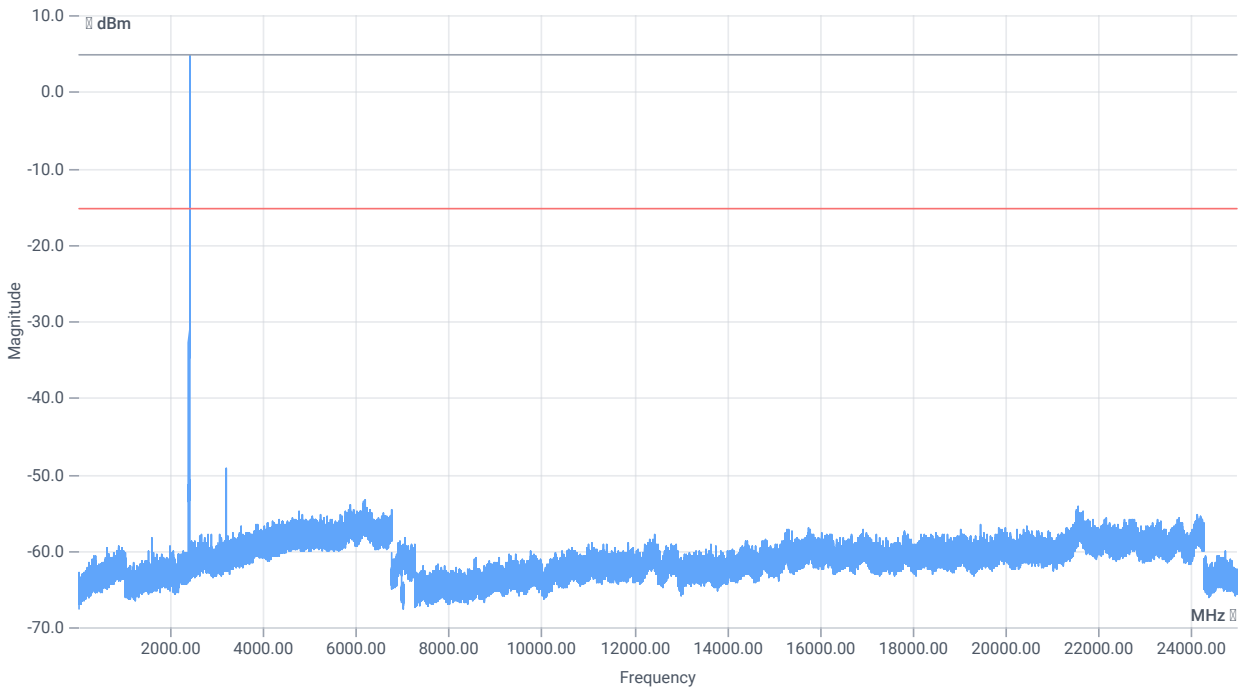
Test Parameter

| | |
|----------------|--|
| Full path type | EUT_SA_GEN_SIG |
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

Test at TX 2404 MHz

RESULT: Reference power cond.

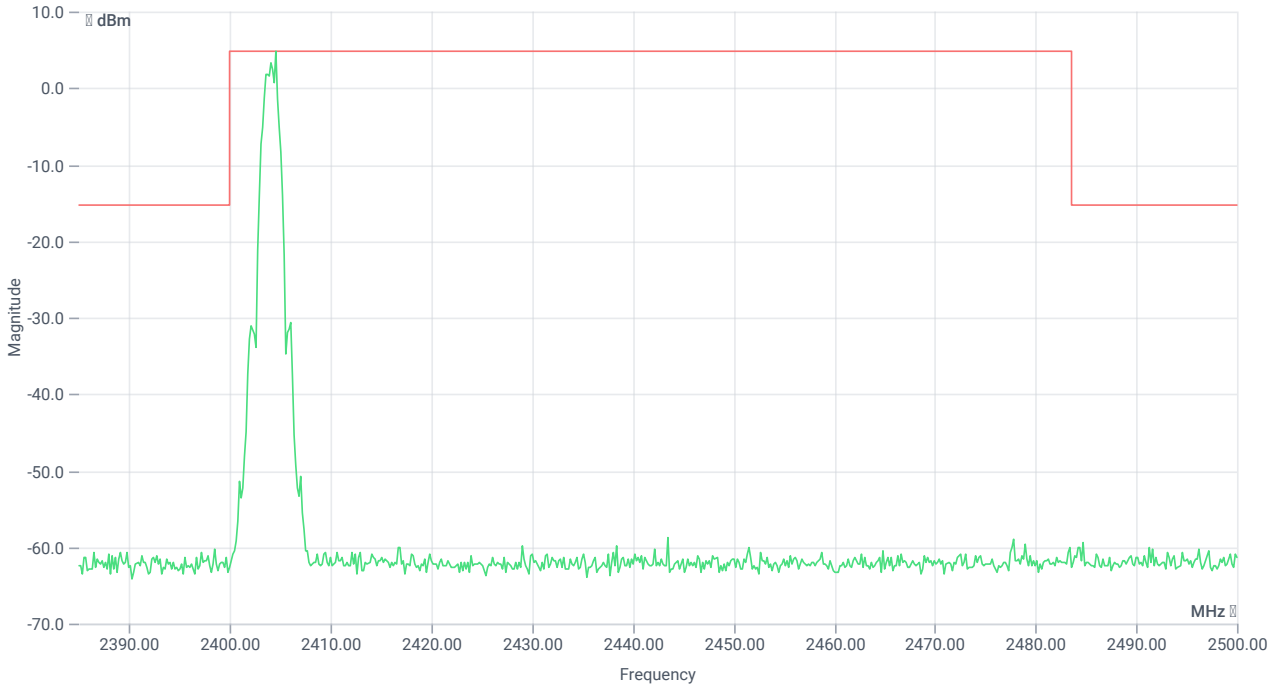
| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 5.90 | dBm | INFO |
| Ref. frequency | -- | -- | 2404.500 | MHz | INFO |



TX emissions

READ SA SETTINGS:

| | |
|--|-----------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 5.90 15.92 5 |
| Start [MHz] Stop [MHz] | 24780.000 25000.000 |
| RBW [MHz] VBW [MHz] | 0.100000 0.300000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 200 25 1501 SWE |



TX emissions band zoomed

RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------------|-------------|-------------|----------|------|---------|
| Reference @ 2404.50 MHz | -- | -- | 4.73 | dBm | INFO |
| No peaks detected | -- | -- | | | PASS |
| Lowest margin to limit 3205.333 MHz | 0 | -- | 34.04 | dB | INFO |

Verdict

PASS

FCC 15.247 # TX spurious conducted 20dBc ~ BT LE 1 Msps

References

| | |
|-----------------------------------|--|
| TC start | 26.01.2024 20:39:36 |
| Ambit temp [°C] humidity [rel%] | 26.6 35 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247 NI |
| Method | IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable |
| Description | FCC 15.247 TX Emissions Conducted DTS - BT LE 1 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|-------------------------|
| Technology to test | BT LE 1 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | False Freq [MHz] 2402 |
| Frequency mid to test | False Freq [MHz] 2440 |
| Frequency high to test | True Freq [MHz] 2480 |
| Auto control enabled power supply Climatic Box | No No |
| Additional path loss [dB] | 0.7 |

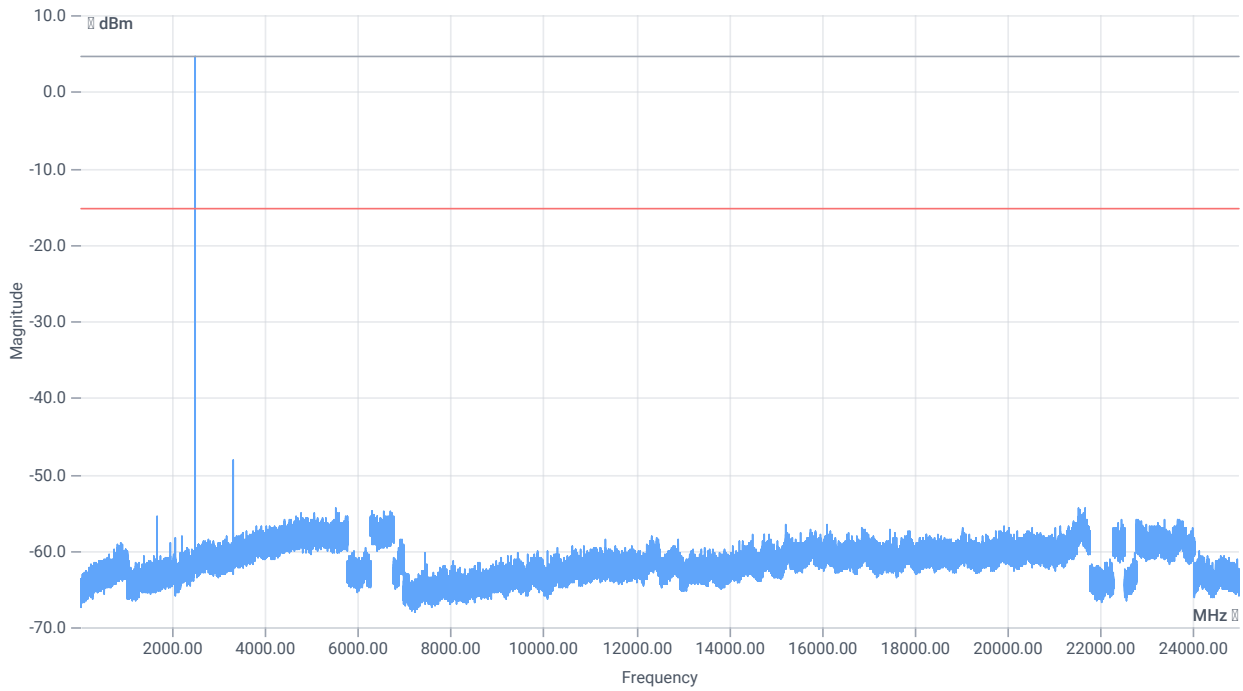
Test Parameter

| | |
|----------------|--|
| Full path type | EUT_SA_GEN_SIG |
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

Test at TX 2480 MHz

RESULT: Reference power cond.

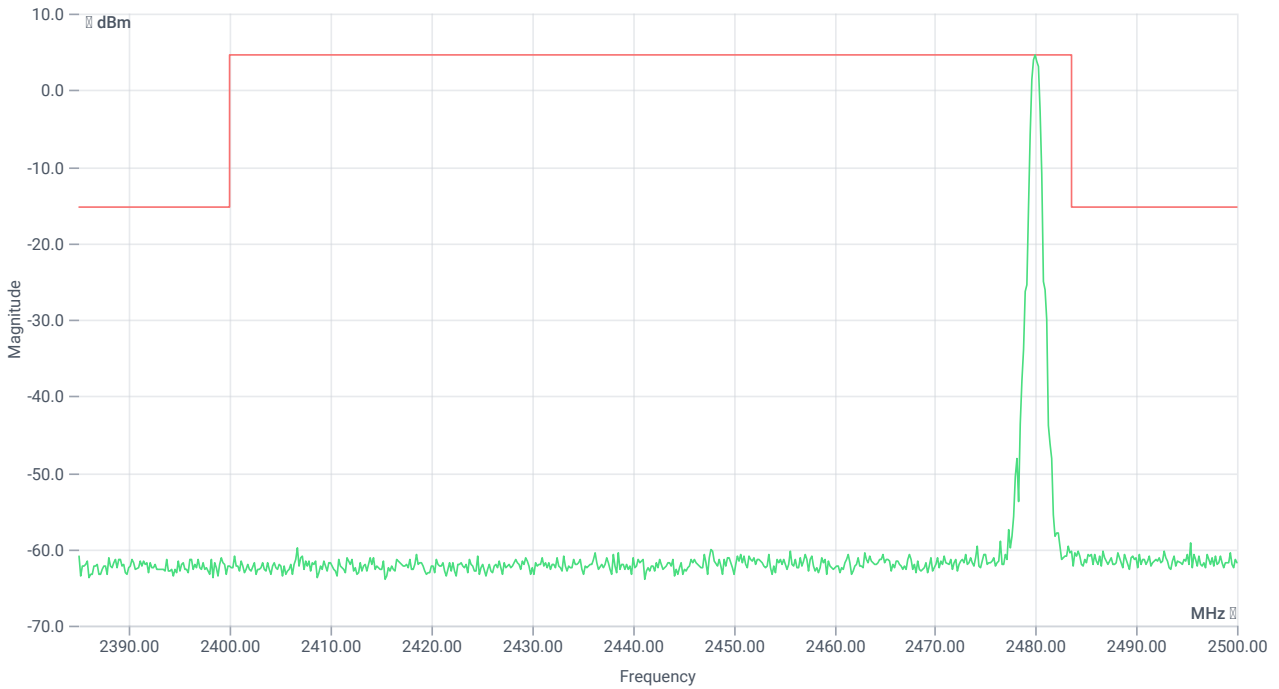
| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 5.54 | dBm | INFO |
| Ref. frequency | -- | -- | 2480.200 | MHz | INFO |



TX emissions

READ SA SETTINGS:

| | |
|--|-----------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 5.54 15.92 5 |
| Start [MHz] Stop [MHz] | 24780.000 25000.000 |
| RBW [MHz] VBW [MHz] | 0.100000 0.300000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 200 25 1501 SWE |



TX emissions band zoomed

RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-----------------------------------|-------------|-------------|----------|------|---------|
| Reference @ 2480.00 MHz | -- | -- | 4.67 | dBm | INFO |
| No peaks detected | -- | -- | | | PASS |
| Lowest margin to limit 3306.5 MHz | 0 | -- | 32.92 | dB | INFO |

Verdict

PASS

FCC 15.247 # TX spurious conducted 20dBc ~ BT LE 1 Msps

References

| | |
|-----------------------------------|--|
| TC start | 26.01.2024 20:19:44 |
| Ambit temp [°C] humidity [rel%] | 26.7 35 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247 NI |
| Method | IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable |
| Description | FCC 15.247 TX Emissions Conducted DTS - BT LE 1 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|-------------------------|
| Technology to test | BT LE 1 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | False Freq [MHz] 2402 |
| Frequency mid to test | True Freq [MHz] 2440 |
| Frequency high to test | False Freq [MHz] 2480 |
| Auto control enabled power supply Climatic Box | No No |
| Additional path loss [dB] | 0.7 |

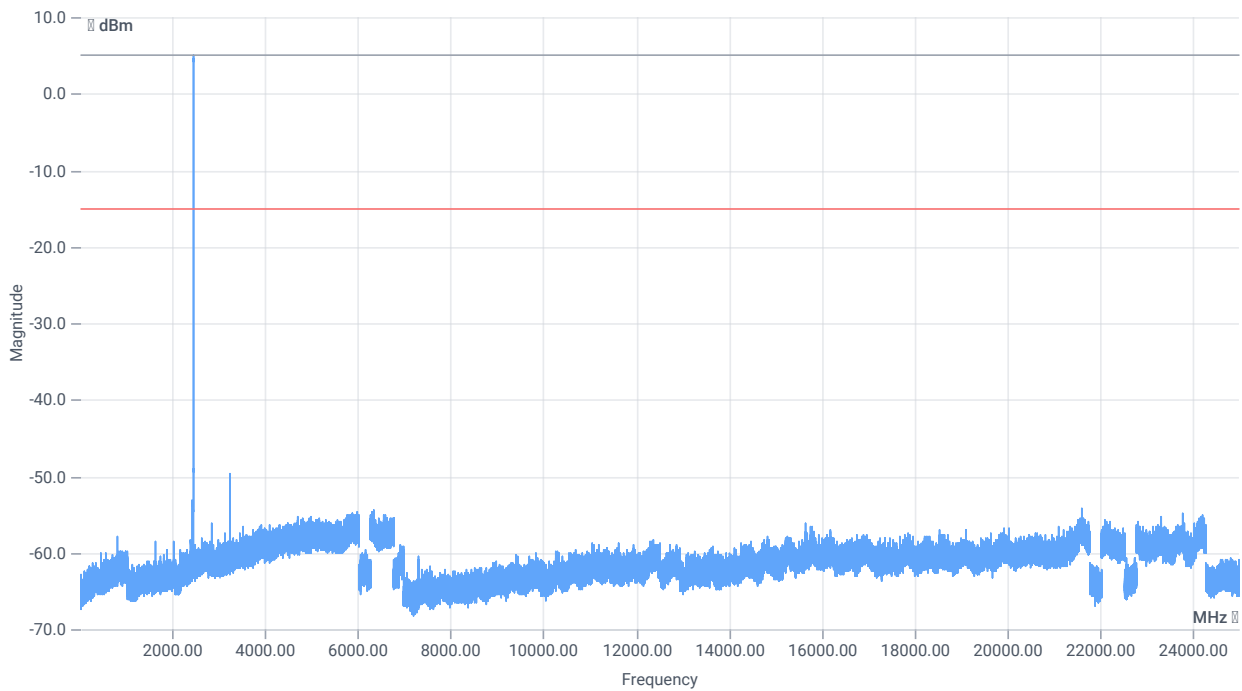
Test Parameter

| | |
|----------------|--|
| Full path type | EUT_SA_GEN_SIG |
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

Test at TX 2440 MHz

RESULT: Reference power cond.

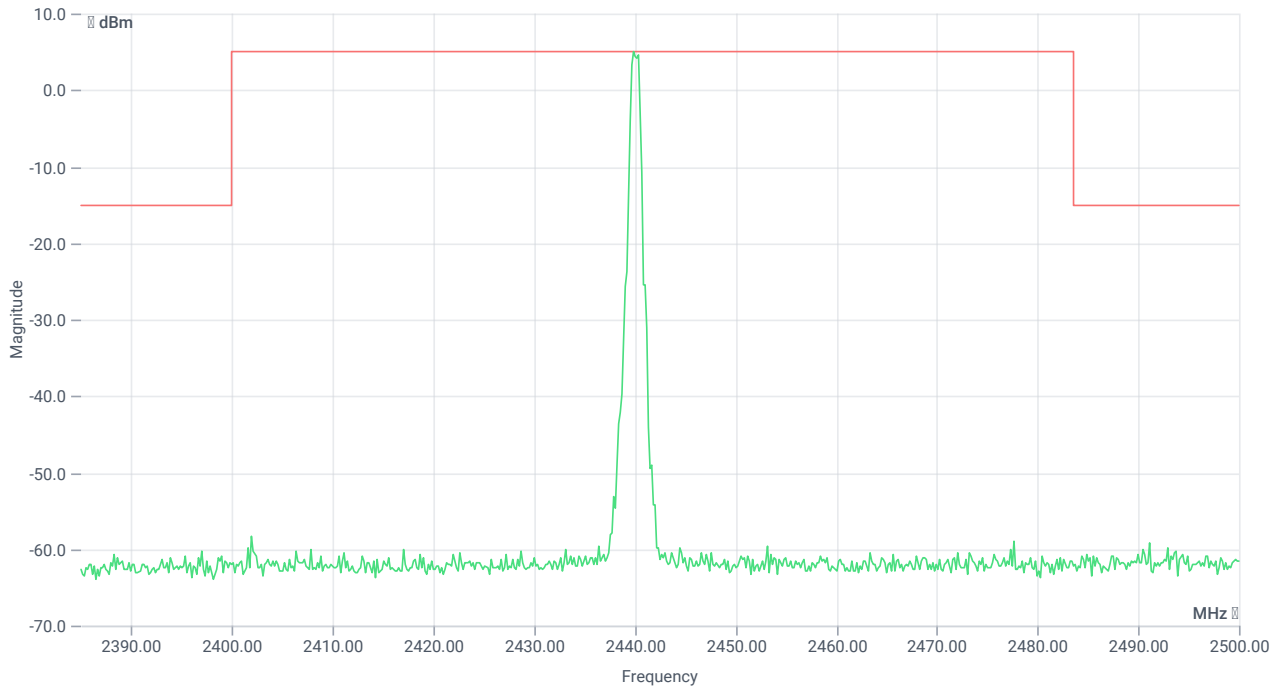
| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 5.68 | dBm | INFO |
| Ref. frequency | -- | -- | 2440.200 | MHz | INFO |



TX emissions

READ SA SETTINGS:

| | |
|--|-----------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 5.68 15.92 5 |
| Start [MHz] Stop [MHz] | 24780.000 25000.000 |
| RBW [MHz] VBW [MHz] | 0.100000 0.300000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 200 25 1501 SWE |



TX emissions band zoomed

RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------------|-------------|-------------|----------|------|---------|
| Reference @ 2439.83 MHz | -- | -- | 4.93 | dBm | INFO |
| No peaks detected | -- | -- | | | PASS |
| Lowest margin to limit 3253.333 MHz | 0 | -- | 34.5 | dB | INFO |

Verdict

PASS

FCC 15.247 # TX spurious conducted 20dBc ~ BT LE 1 Msps

References

| | |
|-----------------------------------|--|
| TC start | 26.01.2024 20:01:04 |
| Ambit temp [°C] humidity [rel%] | 26.7 35 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247 NI |
| Method | IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable |
| Description | FCC 15.247 TX Emissions Conducted DTS - BT LE 1 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|-------------------------|
| Technology to test | BT LE 1 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | True Freq [MHz] 2402 |
| Frequency mid to test | False Freq [MHz] 2440 |
| Frequency high to test | False Freq [MHz] 2480 |
| Auto control enabled power supply Climatic Box | No No |
| Additional path loss [dB] | 0.7 |

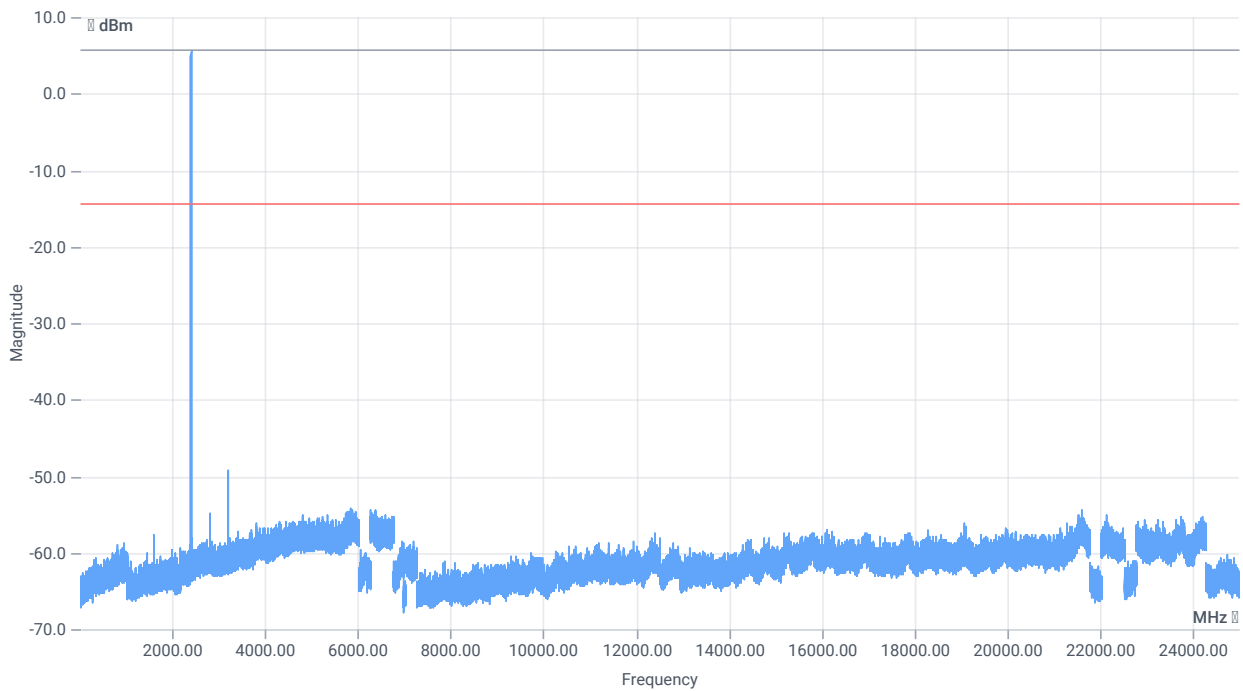
Test Parameter

| | |
|----------------|--|
| Full path type | EUT_SA_GEN_SIG |
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

Test at TX 2402 MHz

RESULT: Reference power cond.

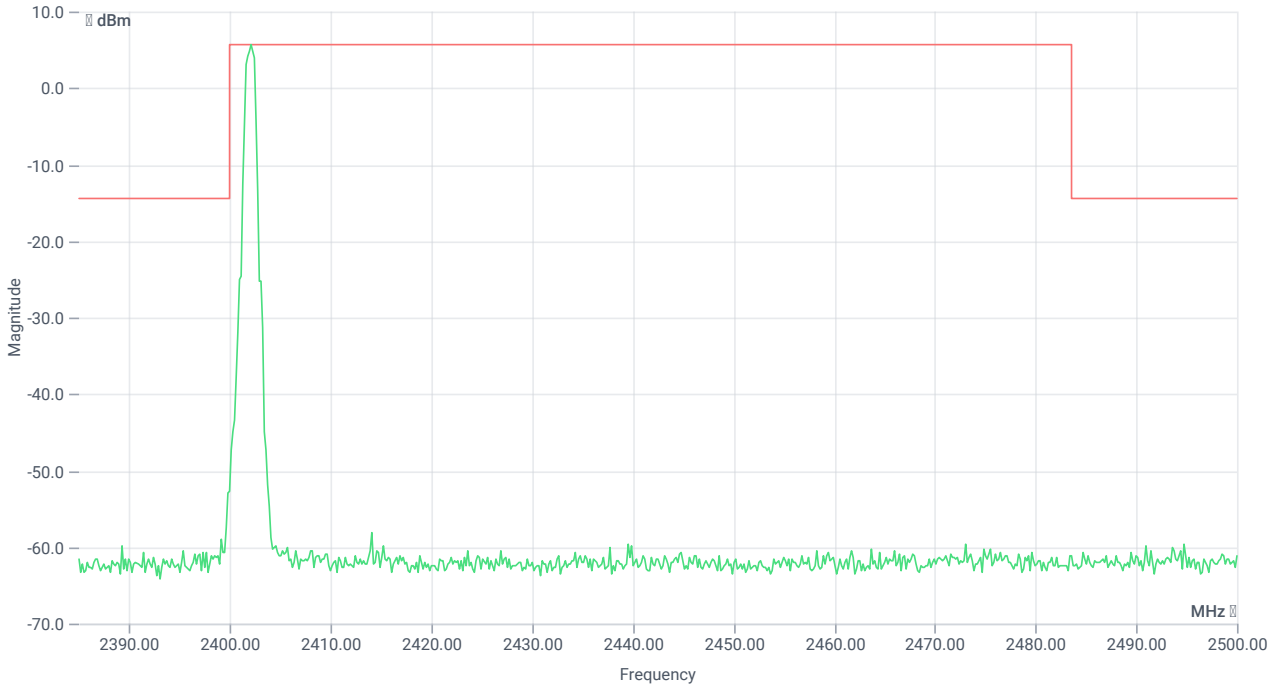
| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 5.69 | dBm | INFO |
| Ref. frequency | -- | -- | 2402.200 | MHz | INFO |



TX emissions

READ SA SETTINGS:

| | |
|--|-----------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 5.69 15.92 5 |
| Start [MHz] Stop [MHz] | 24780.000 25000.000 |
| RBW [MHz] VBW [MHz] | 0.100000 0.300000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 200 25 1501 SWE |



TX emissions band zoomed

RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------------|-------------|-------------|----------|------|---------|
| Reference @ 2402.17 MHz | -- | -- | 5.63 | dBm | INFO |
| No peaks detected | -- | -- | | | PASS |
| Lowest margin to limit 3202.667 MHz | 0 | -- | 34.81 | dB | INFO |

Verdict

PASS

FCC 15.247 # TX spurious conducted 20dBc ~ BT LE 2 Msps

References

| | |
|-----------------------------------|--|
| TC start | 31.01.2024 16:04:09 |
| Ambit temp [°C] humidity [rel%] | 26.4 28 |
| System version | 5.0.1.0 |
| Standard Version | FCC 15.247 NI |
| Method | IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable |
| Description | FCC 15.247 TX Emissions Conducted DTS - BT LE 2 Msps |
| Information | |

EUT Common Settings BT Low Energy

| | |
|------------------------------------|---|
| Intermodulation Value N | 3 |
| Image Freq. Low Mid High [MHz] | 0 0 0 |
| Power Class | 2 |
| 1 Mbps supported | True TXpayload 255 RXpayload 255 |
| 2 Mbps supported | False TXpayload 255 RXpayload 255 |
| Longrange S8 supported | False TXpayload 255 RXpayload 255 |
| Longrange S2 supported | False TXpayload 255 RXpayload 255 |
| Signaling Settings | None HCI 1 2400 None S1 None On |
| Signaling RF Settings | RF1com 0 0 On |
| User Interaction | Yes |

Equipment

| |
|---|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
| Signaling unit,Rohde&Schwarz,CMW,1201.0002k75/102550,4.0.190 |
| Switch matrix,cetecom advanced GmbH,USM,A001,1.0.0 |

Test Parameter

| | |
|--|------------------------|
| Technology to test | BT LE 2 Msps |
| EUT port | EUT1 |
| Temperature | nom |
| Voltage | nom |
| Frequency low to test | True Freq [MHz] 2404 |
| Frequency mid to test | True Freq [MHz] 2440 |
| Frequency high to test | True Freq [MHz] 2478 |
| Auto control enabled power supply Climatic Box | No No |
| Additional path loss [dB] | 0.7 |

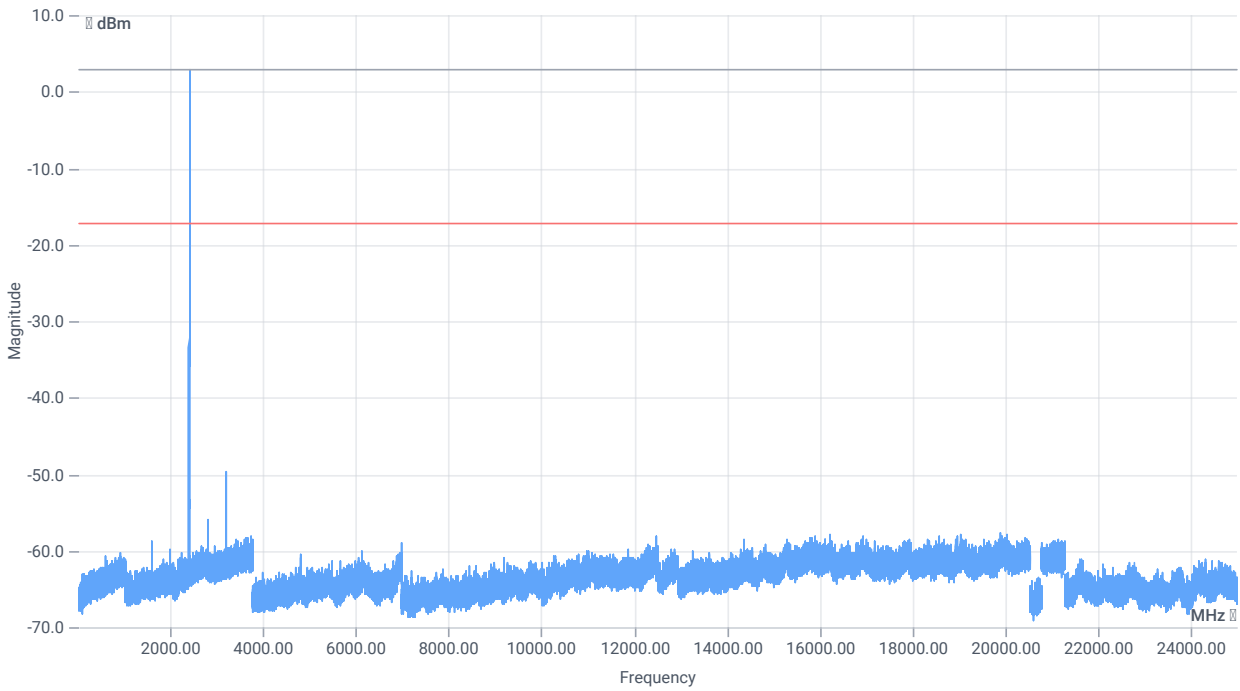
Test Parameter

| | |
|----------------|--|
| Full path type | EUT_SA_GEN_SIG |
| Full path name | EUT1.SIG1/EUT1.SA/EUT1.GEN1/EUT1.GEN2/ |
| Switch bits | 00010001:00010001:00000000:00000001 |

Test at TX 2404 MHz

RESULT: Reference power cond.

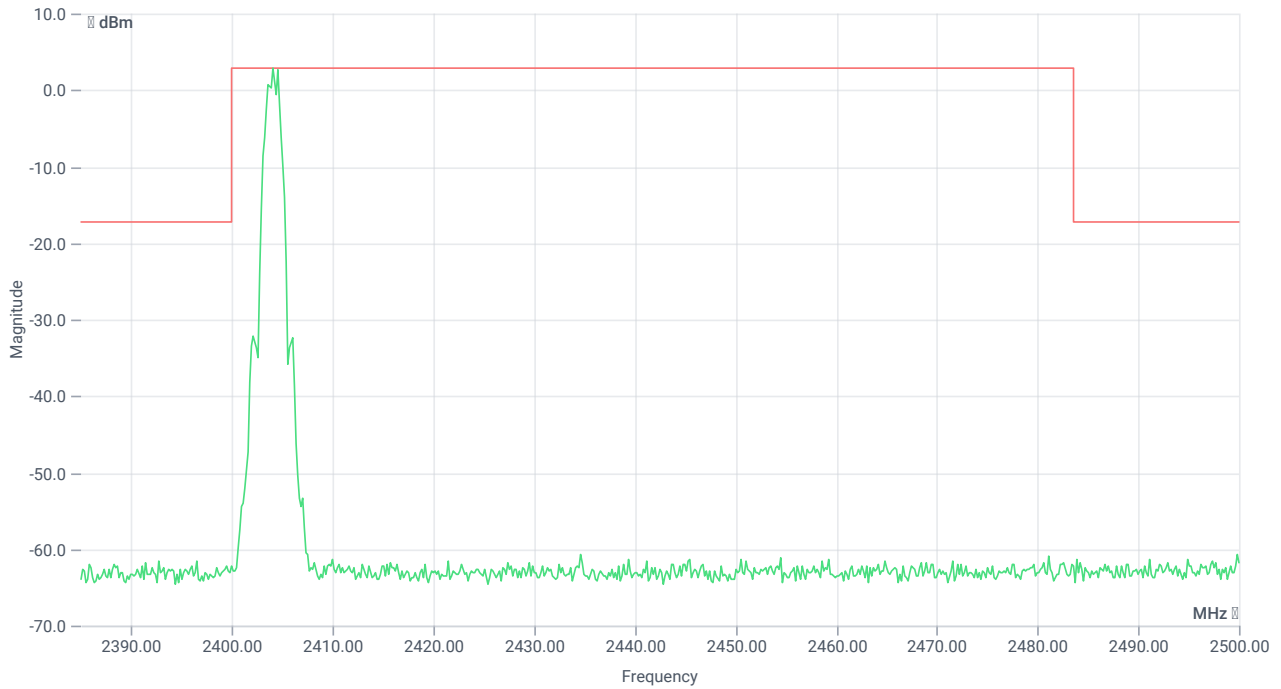
| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 4.62 | dBm | INFO |
| Ref. frequency | -- | -- | 2404.500 | MHz | INFO |



TX emissions

READ SA SETTINGS:

| | |
|--|-----------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 4.63 15.92 5 |
| Start [MHz] Stop [MHz] | 24780.000 25000.000 |
| RBW [MHz] VBW [MHz] | 0.100000 0.300000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 200 25 1501 SWE |



TX emissions band zoomed

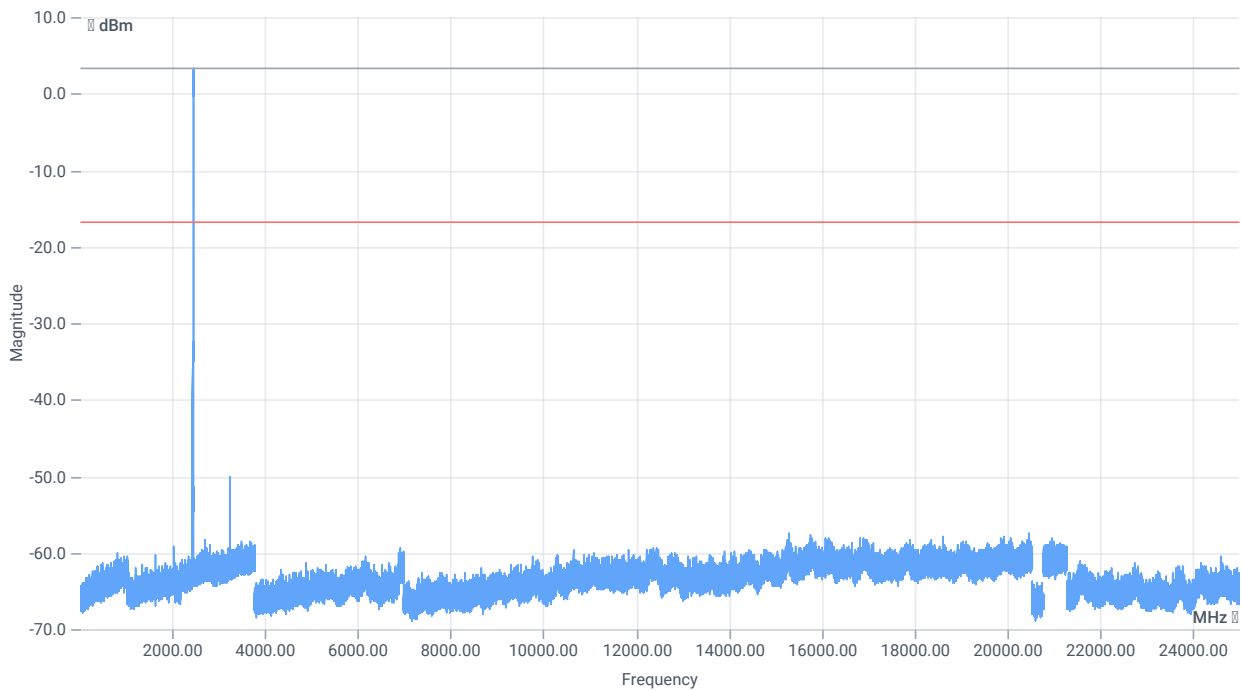
RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------------|-------------|-------------|----------|------|---------|
| Reference @ 2404.00 MHz | -- | -- | 2.82 | dBm | INFO |
| No peaks detected | -- | -- | | | PASS |
| Lowest margin to limit 3205.333 MHz | 0 | -- | 32.56 | dB | INFO |

Test at TX 2440 MHz

RESULT: Reference power cond.

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 4.63 | dBm | INFO |
| Ref. frequency | -- | -- | 2440.500 | MHz | INFO |



TX emissions

READ SA SETTINGS:

| | |
|--|-----------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 4.63 15.92 5 |
| Start [MHz] Stop [MHz] | 24780.000 25000.000 |
| RBW [MHz] VBW [MHz] | 0.100000 0.300000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 200 25 1501 SWE |



TX emissions band zoomed

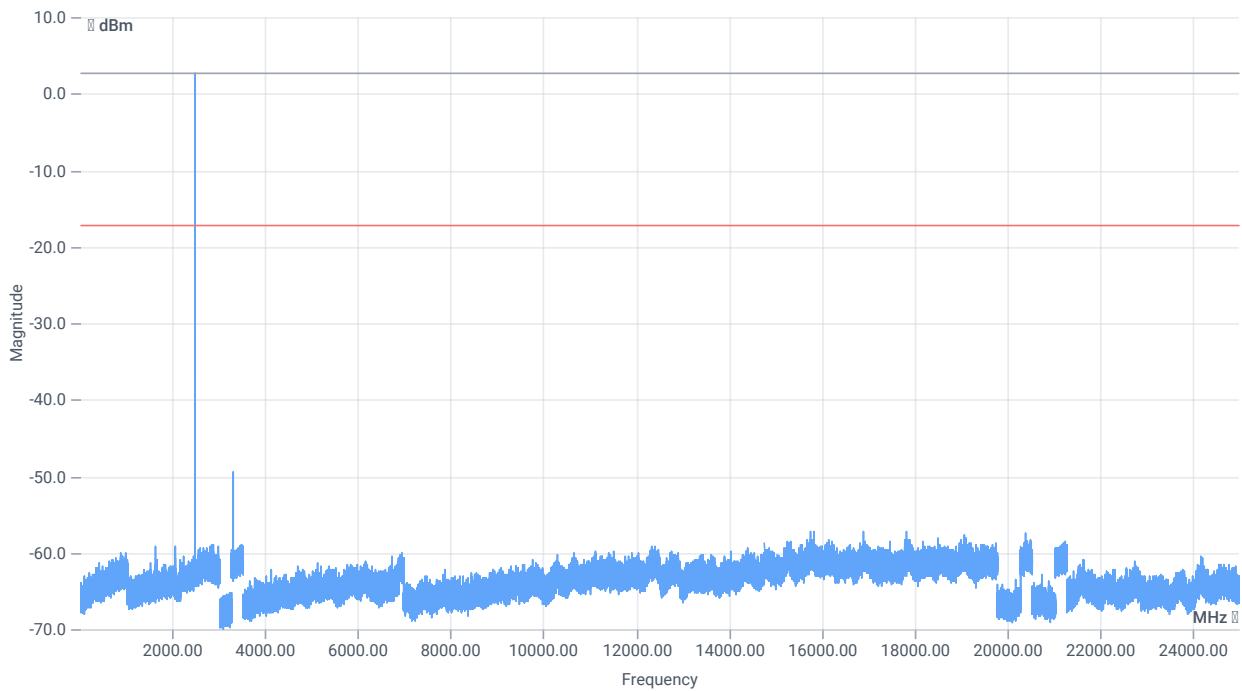
RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------------|-------------|-------------|----------|------|---------|
| Reference @ 2440.00 MHz | -- | -- | 3.21 | dBm | INFO |
| No peaks detected | -- | -- | | | PASS |
| Lowest margin to limit 3253.333 MHz | 0 | -- | 33.29 | dB | INFO |

Test at TX 2478 MHz

RESULT: Reference power cond.

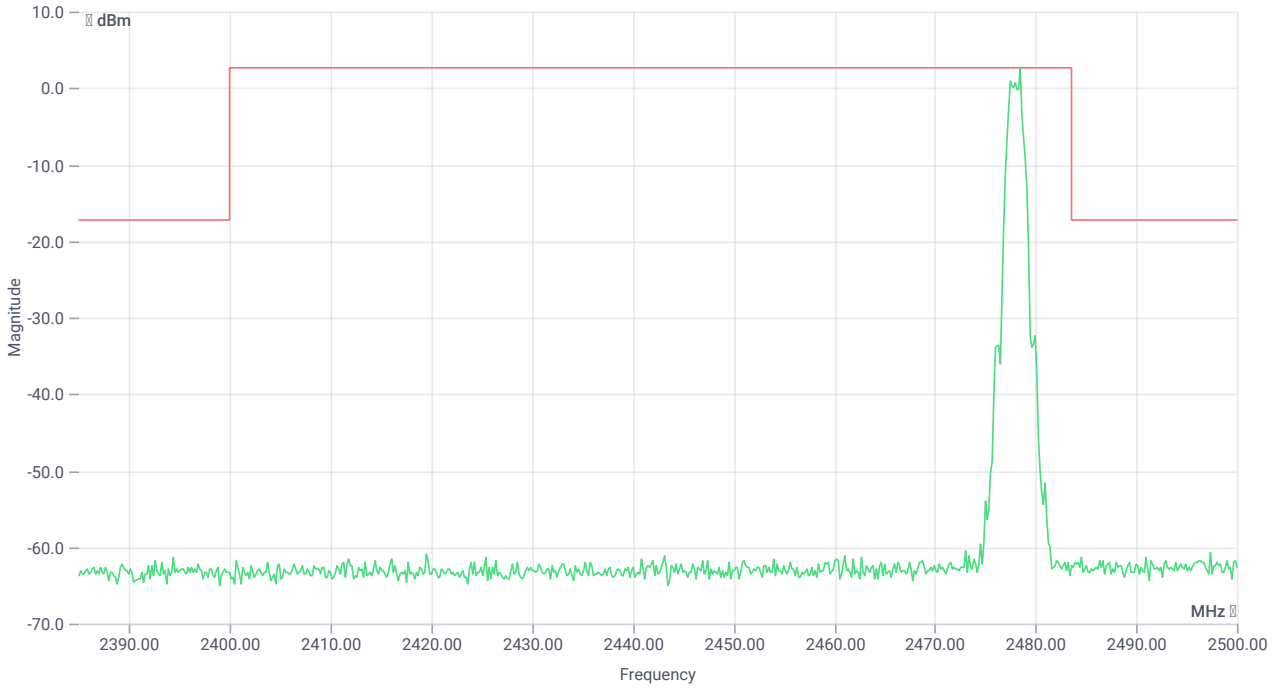
| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. power 1MHz/1MHz cond. | -- | -- | 4.45 | dBm | INFO |
| Ref. frequency | -- | -- | 2478.500 | MHz | INFO |



TX emissions

READ SA SETTINGS:

| | |
|--|-----------------------|
| RefLevel [dBm] RefLevelOffset [dB] InpAtt [dB] | 4.45 15.92 5 |
| Start [MHz] Stop [MHz] | 24780.000 25000.000 |
| RBW [MHz] VBW [MHz] | 0.100000 0.300000 |
| Detector TraceMode | POS MAXH |
| Sweep: time [ms] count points per Section type | 200 25 1501 SWE |



TX emissions band zoomed

RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------------|-------------|-------------|----------|------|---------|
| Reference @ 2478.50 MHz | -- | -- | 2.74 | dBm | INFO |
| No peaks detected | -- | -- | | | PASS |
| Lowest margin to limit 3303.833 MHz | 0 | -- | 32.13 | dB | INFO |

Verdict

PASS

- END OF DOCUMENT -